PHASE II ARCHAEOLOGICAL SURVEY OF THE FORT HAYS MUNICIPAL GOLF COURSE

Prepared for:

The City of Hays, Kansas

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ABSTRACT

This report describes the results of a Phase II cultural resources survey of the Fort Hays Municipal Golf Course, which encompasses portions of the National Register of Historic Places (NRHP) site of Fort Hays (14EL301) in central Ellis County, Kansas. The investigation was designed and undertaken to locate and identify intact features and cultural deposits within the existing municipal golf course, to assist the City of Fort Hays determine if and/or where cultural features associated with the NRHP site are located, to establish their integrity, and to determine if there are additional sites within the golf course. Results from the Phase II survey indicate that features associated with Site 14EL301, with good integrity, are present across the entire golf course. All work was conducted in accordance with the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation (*48 FR 44716-44742*)* and the *Secretary's Standards for Identification (48 FR 44720-44723).*

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF PHOTOGRAPHS

LIST OF TABLES

Page

1.0 INTRODUCTION

This report describes the results of the Phase II archaeological investigations conducted on the Fort Hays Municipal Golf Course in Ellis County, Kansas (Figure 1-1). Burns & McDonnell conducted the archaeological investigations to provide the City of Hays with data related to the location of intact cultural resource features and deposits, including those related to the National Register of Historic Places (NRHP) site of Fort Hays (14EL301). This data was generated to identify sensitive areas that should be considered by the City of Hays when they develop future plans for upgrading or developing portions of the golf course in compliance with Section 106 of the National Historic Preservation Act 1966 (as amended).

1.1 DESCRIPTION OF THE STUDY AREA

The proposed project is the 75-acre golf course leased from the State of Kansas by the City of Hays, and an additional 15 acres around the Fort Hays State Historic Park. The golf course wraps around the State Park on the west, south, and east sides. The U.S. Highway 183 by-pass creates the northern boundary (Figure 1-2) of the golf course and the state-maintained Fort Hays Historic Park.

1.2 OBJECTIVES OF INVESTIGATION

The primary objective of the archaeological investigation was to systematically survey the golf course and portions of the adjacent property at Fort Hays State Historic Park to identify cultural resources presence or evidence of the potential for additional cultural resources. It was known prior to the survey that elements or cultural features associated with the historic fort were within the golf course (Pankratz 1979:52, Pankratz, Reynolds, and Stein 1996:2-3, Reynolds and Stein 1994:19, CSC 1990:11-12, Oliva 1980:61-62). Our goal was to locate these features and other cultural deposits. All work was conducted to professional standards and guidelines in accordance with the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation*, 48 FR 44716-44742 and in accordance with the *Secretary's Standard for Identification* (48 FR 44720-44723). Part 4 of this report provides a more detailed discussion of the objectives of this project.

1.3 PERSONNEL

The field investigation was performed on 2, 3, and 4 March 2005 by staff from Burns and McDonnell Engineering Company, Inc. Mark A. Latham served as principal investigator, project archaeologist, and report author. C. Tod Bevitt assisted in the survey and sketched all of the features. Susan Houghton prepared the figures and formatted the report.

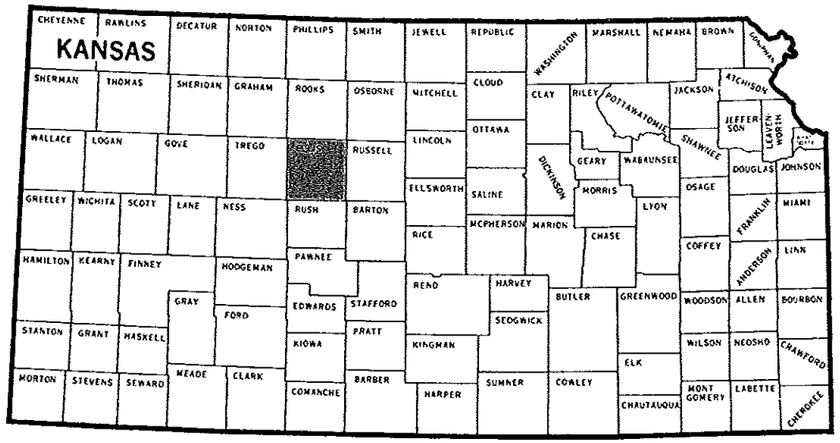

Figure 1-1
General Area Map

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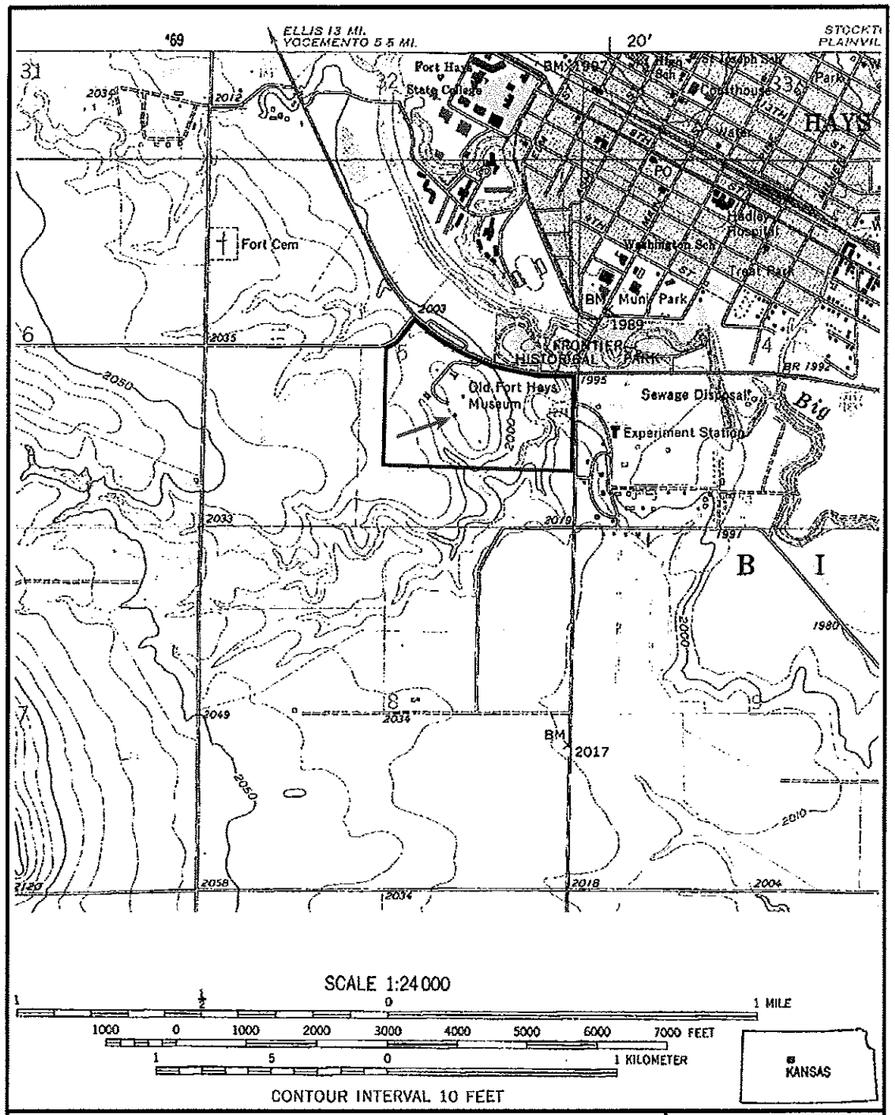

Figure 1-2. Project Area
Arrow indicates Feature 58, old golf course structure foundation
USGS 7.5 Quadrangle, Hays South, Kansas
1961, Photorevised 1983

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2.0 ENVIRONMENTAL

2.1 PHYSIOGRAPHY

The City of Hays is located on the heavily dissected eastern edge of the High Plains (Schoewe 1949: 280, 311-330) in a section of the Cretaceous system named for their smoky appearance due to atmospheric refraction and haze called the Smoky Hills. The underlying limestone was an important asset for the first European settlers in much of the Smoky Hills. The lack of timber on the grassy plains required the settlers to exploit other sources of construction material, and limestone was and still is a plentiful resource (Wilson 1989: 23-33). A historic quarry was reportedly located to the west of Fort Hays (14EL301), and was the source of the stone for the block and guard houses.

2.2 GEOLOGY

Several outcroppings of Blue Hill Shale, Smoky Hill Chalk, Fort Hays Limestone, and Greenhorn Limestone exist within the locality. The bluish hue of the shale gives the hills their name, the Blue Hills (O'Connor 1968: 54-57). The Smoky Hill Chalk and the Fort Hays Limestone are members of the Niobrara Chalk. Outcrops of this chalk and limestone are found primarily on the steep slopes of the major streams and upland drainages. The Fort Hays Limestone member is the typical limestone outcropping of the Blue Hills. The formations of soft chalk and limestone erode to produce sediments that form moderately deep to shallow soils in the uplands of the region (Glover et al. 1975).

2.3 SOILS

Site 14EL301 is found on two soil associations; the Roxbury-Eltree-Hord soils are found on the northeastern 1/3 of the site while the remainder of the site is covered by Harney-Carlson-Armo soils. Roxbury silt loams, described as deep and well-drained, are found along the stream channel that winds across the eastern 1/3 of the site. Armo loam soil colluvials are derived from the chalky limestone of the area and are found on the terraces overlooking the stream channel. The upland soils on the site are Harney and Harney-Carlson silt loams. These deep soils are formed from loess and are found on tablelands, convex slopes and ridges (Glover et al. 1975). Based on the descriptions of these soils, the only good possibility of buried cultural deposits is along the stream channels in the Roxbury silt loam.

2.4 DRAINAGE SYSTEM

The Smoky Hill River is a major tributary of the Kansas River, and drains much of west-central Kansas. Big Creek, which passes near Site 14EL301, is a major tributary to the Smoky Hill River. This creek enters the river about five miles south, southwest of Russell, Kansas in Russell County, some 30 miles downstream from Fort Hays.

2.5 FLORA

The Hays locality falls within the potential native vegetation zone of short grass prairie. Early accounts describe blue gama and buffalo grasses dominating the native vegetation. Forbs such as sunflowers were common in areas of poor or shallow soils. Before the historic introduction of foreign plant life and modern farming techniques, native timber was found only along the ravines and stream edges. Tree species found included cottonwood, elm, box elder, black walnut, hackberry, willow, ash, burr oak, elderberry, plum, and choke cherry (Wedel 1959).

2.6 FAUNA

Researchers have identified the native fauna of the area through historical accounts, biological studies, and the archaeological record. Before the Europeans, the American bison (*Bison bison*) was the dominant herbivore in the region. The archaeological record has shown that the bison was an important food resource throughout most of the time humans occupied the plains.

Bison were not the only artiodactyl that was important to the people who lived in this area. Two species of deer were also native to the area -- the white-tailed deer (*Odocoileus virginianus*) and the mule deer (*Odocoileus hemionus*). Although the white-tailed deer is most commonly found along the forest edge (Jones et al. 1985:313), this preference does not restrict the range of the white-tail throughout the plains. Mule deer range is restricted primarily to open prairies; Site 14EL301 is found near the eastern edge of the mule deer range (Jones et al. 1985:312).

Other artiodactyls native to the area include pronghorn (*Antilocapra americana*) and American elk or wapiti (*Cervus elaphus*). Today, pronghorn can be found just to the southwest. Elk are no longer found in the area (Jones et al. 1985:311), but are well-represented in the historical and archaeological records of the region.

Many of the carnivores that were native to the region are still be found in the area today. They include the coyote (*Canis latrans*), a variety of foxes (*Vulpes velox, Vulpes vulpes, Urocyon cinereoargenteus*), raccoons (*Procyon lotor*), skunks (*Mephitis mephitis* and *Spilogale putorius*), badgers (*Taxidea taxus*), and a variety of weasels (*Mustela frenata* and *Mustela nivalis*). Carnivores less frequently reported include the river otter (*Lutra canadensis*), the bobcat (*Lynx rufus*), and mink (*Mustela vision*). The European settlers exterminated the wolf (*Canis lupus*), grizzly bear (*Urus arctos*), and the mountain lion (*Felis concolor*) from the area (Jones et al. 1985, Wilson and Ruff 1999).

Biologists report several other species of mammals in the area including rodents, insectivores, marsupials, chiropterans, and lagomorphs. Rodents are the most abundant genus, numbering at least twenty-one species. Three species of insectivores are well-documented in the area, including one mole species and two species of shrews. Only one marsupial, the Virginia opossum (*Didelphia virgiana*), is native to the area. Biologists report nine species of chiropterans or bats in the locality. The eastern cottontail (*Sylvilagus floridanus*) and the black-tailed jackrabbits (*Lepus californicus*) are the only two lagomorphs native to the area.

Many native reptiles and amphibians are found along this portion of the Smoky Hill River drainage basin. Biologists report eight species of amphibians in the area. Though amphibians are very good indicators of the local environment, most of the species present are also found throughout the State of Kansas. These species occupy a specific environment or niche; thus, they are indicators of the variety of environments present today.

The large number of reptiles found are also indicative of the variability within the region. Two native turtles include the common snapping turtle (*Chelydra serpentina*) and the ornate box turtle (*Terrapene ornata*). Biologists have reported these two species throughout the plains. Other reptiles found in the locality include seven species of lizards and fifteen species of snakes (Collins 1982).

2.7 CLIMATE

The climate of the Hays locality is typical of the High Plains. The summers are hot and the winters cold, with sudden temperature variations occurring throughout the year. These temperature variations and brisk winds mark the spring and fall seasons. Annual rainfall varies drastically, ranging from less than 16.01 inches to over 29.94 inches (Glover et al. 1975).

3.0 CULTURAL HISTORY OVERVIEW

Archaeologists generally divide the prehistoric cultural sequence of the Great Plains into periods or stages. The divisions of chronology are generally defined by changes in technology, settlement, and subsistence. None of the archaeological cultures are considered confined to their particular range of dates and can fluctuate across regions within the Great Plains.

3.1 PALEOINDIAN

The Paleoindian stage is best defined by the presence of extinct megafaunal remains in the ecofact assemblages of archaeological sites found in North America. This stage is generally thought of as a period dominated by highly mobile hunting and gathering bands living a nomadic lifestyle and exploiting, by choice, a limited number of resources. Some recent investigations and interpretations suggest that the lifestyle of the Paleoindian was more complex than that of big game hunters.

Evidence of Paleoindian occupations in northwestern Kansas has been documented in both surface and subsurface contexts (Hofman 1996). No sites or finds have been reported in the project area, or even within Ellis County. The Walsh Cache site in Trego County, Kansas, which likely dates to the Hell Gap complex, is the closest site to the project area. This National Register site contained a cache of 15 large bifaces (Stanford 1997).

The only Folsom complex site excavated in Kansas, the 12-Mile Creek site located in Logan County, Kansas, was first investigated in 1895. The validity of the projectile point identification of the 12-Mile Creek artifact assemblage is somewhat controversial. Some believe that the points are Folsom while others believe they are Clovis (Wedel 1959; Rogers and Martin 1984). Unfortunately, the artifacts from this excavation have since been lost. In either case, the antiquity of the site cannot be questioned. For discussions on these complexes in the Central Plains, see Hofman (1996), Brown and Logan (1987), and Hofman and Graham (1998).

3.2 ARCHAIC

The Archaic period is normally subdivided into Early, Middle, and Late stages. Archaeologically, little is known of the Early and Middle Archaic in Kansas. Occurring during the Middle Holocene, the Plains Archaic was marked by the warmer and drier climate of the Hypisthermal episode (Kay 1998). By about 4500 BC, most of the megafauna that populated the continent had become extinct. The explanation for these mass extinctions is varied and range from climatic change to over-kill by Paleoindian hunters. Regardless of the mechanism that led to the extinctions, the facts are the climatic conditions changed and

the megafauna became extinct. These factors, in turn, forced modifications to be made in the cultural traditions, degrees of which varied across the Great Plains. Some complexes exhibit these changes or modifications as increased diversity in the stone tool assemblage including ground and polished tools, an increased reliance on smaller and more varied game species, and the exploitation of a wider array of plant foods. These groups increased in numbers and became more sedentary. In contrast, other complexes appear to have continued much the same as their Paleoindian ancestors. Finally, at the end of the Archaic or Mesoindian stage, experimentation with plant domestication and ceramics manufacturing became evident (Willey and Phillips 1958; Kay 1998).

A unique aspect of many Plains Archaic complexes is the continuing heavy reliance on bison hunting as a mainstay of the economy. This form of big-game hunting differs from the classic Archaic pattern developed in eastern North America. The reliance on bison hunting, coupled with difficulties in developing horticultural techniques, led to the Archaic stage being prolonged on the Plains (Hofman 1996).

3.3 WOODLAND

The common label for the time period between the Archaic and Central Plains tradition is Woodland, and is a carryover from studies conducted in the woodlands of the Eastern United States. Fundamental changes in technology are similar in both regions, but the adaptations are considerably different. The diagnostic artifacts that differentiate this stage are the introduction of pottery and the bow and arrow. In certain areas of the Plains, pottery is actually first introduced during the Late Archaic. Subsistence patterns developed such that horticulture was becoming prevalent and, as the bow and arrow suggest, hunting techniques also varied from those of the Archaic. In certain portions of the Central Plains, these developments began around 500 B.C. (Adair 1996).

The Keith variant is the best-documented archaeological Plains Woodland culture in the region. The ceramics recovered at these sites are typically very crude, thick-walled, and vertically cord-marked conical vessels tempered with calcite. Another key diagnostic of the Keith variant is the projectile points, which are small, corner-notched (Scallorn-like) arrow points (Adair 1996).

3.4 MIDDLE CERAMIC PERIOD

During the Middle Ceramic period the archaeological record indicates people consumed a wide range of plants and animals (Blakeslee 1999, Nepstad-Thornberry et al. 2002, Latham 2004). Although hunting and gathering continued to be important subsistence activities, it is evident that they became more reliant

on horticulture. There is also evidence that groups became more sedentary, as most sites associated with these people are habitations containing the remains of one or more earthlodges (Latham 1996).

Plains Village remains have been documented throughout the Smoky Hill River valley. However, the site density appears much higher further downstream from the project area (Blakeslee 1999, Latham 1996, 2004). The people of the Middle Ceramic stage of the Central Plains were semi-sedentary horticulturists. These people lived in semi-rectangular to circular earth lodges throughout most of the Central Plains. Their subsistence included raising crops of corn, beans, and squash, gathering many native vegetal foods, and hunting nearly every type of animal native to their area.

The Hays locality is likely on the margin of the Smoky Hill phase (to the east) and the western Central Plains sites of the western portions of what is now Kansas and Nebraska. To the northeast is the Solomon River phase (Latham 1996, 2004; Latham et al. 2004; Blakeslee 1999). The Smoky Hill and Solomon River phase people built their earth lodges on the ground surface or just below the sod, which was evident on the ground surface in the form of an earthen mound (Latham et al. 2004). A hearth was usually near the center of these floors. Additional features within the house were rows of wall posts, a variety of interior post molds, and storage pits. These cache pits varied in number "from one to ten and in form from bell-shaped, straight-sided, and contracting to basin-shaped" (Lippincott 1978: 63).

The sites of the Central Plains tradition are of various sizes. The largest are multi-house sites, in no particular pattern, on terraces of the lower Solomon and Smoky Hill rivers. Sites along tributary streams and mid to upper portions of the rivers, were typically small hamlets or isolated house sites.

3.5 LATE CERAMIC PERIOD

The Late Ceramic period, also called the protohistoric period, is defined as that interval of time during which Europeans were in North America, but had little or no direct contact with the native populations in the interior (Logan 1996). Their presence did have a direct impact on the native populations through the diseases they carried and the technology they possessed. For the Kansas River basin, the period extends from the end of the Plains Village period (AD 1400) until the era of Euroamerican exploration in the early 1700s. Late Ceramic cultural groups on the High Plains through the locality and westward included the Dismal River variant or Plains Apache (Gunnerson 1987; Logan 1996). To the east and north were the White Rock or Western Oneota people and the Lower Loup or Pawnee (Gunnerson 1987; Logan 1996) and to the south and east were the Great Bend or Wichita villages (Wedel 1959; Logan 1996). Campsites associated with these groups have been recorded throughout the Smoky Hill, Saline, and Solomon river drainages of western and central Kansas (Latham 1996). Later, as the horse cultural of the Plains grew,

groups found in the area included the Arapaho, Kiowa, Cheyenne, Sioux (Lakota and Nakota), Pawnee, Wichita, Kansa, and reservation groups from eastern Kansas (Gunnerson 1987).

The first Europeans to enter central Kansas were the Spanish, most notably Coronado's 1541 venture into what is now Rice County, Kansas. The influence of Europeans and Euroamericans is poorly documented in the area until the eighteenth century. Early historic explorers and fur traders often used the old Indian roads to travel, many of which paralleled rivers and other streams. One of these trails developed into the Smoky Hill Trail and eventually led to the military presence in the area, including the development of Fort Hays.

3.6 FORT HAYS

Fort Hays (14EL301) was the third military facility established in the area during the late 19th century. The first was Camp Fletcher, a temporary post established October 11, 1865 about 15 miles southeast of Fort Hays. It was abandoned on May 5, 1866, after travel along the Smoky Hill Route nearly ceased with the sale of the Butterfield Overland Despatch. Camp Fletcher was abandoned about 8 months later, but shortly afterward Fort Fletcher was reestablished to protect renewed traffic along the trail and construction of the railroad corridor. The name of the fort was changed to Fort Hays on November 11, 1866, in honor of Brigadier General Alexander Hays. Hays was a native of Pennsylvania and a West Point graduate, who had recently been killed at the Battle of the Wilderness (May 5, 1864) (Oliva 1980; King 1999).

During May of 1867, General Winfield S. Hancock visited "Old Fort Hays" and ordered that the facility be moved out of the floodplain onto higher ground, nearer the new railroad. Unfortunately, the facility was not moved in time to avoid a flood that destroyed the fort and killed at least seven soldiers and two civilians on the morning of June 8, 1867 (CSC 1990:5-10; Oliva 1980:19-20; Reynolds and Stein 1994:18; King 1999:5).

The new location of Fort Hays was selected by Major Alfred Gibbs (7th Calvary). The 7,640 acre military reservation was laid out by Lt. Jackson and surveyed by Lt. M.R. Brown, Chief Engineer of the Department of the Missouri (Figure 3-1). The United States General Land Office (USGLO 1867) produced a more detailed map, showing three roads, the fort cemetery, the fort proper, boundaries of the reservation, and the railroad (Figure 3-2). The buildings of the fort proper were constructed throughout late 1867 and 1868, with the Blockhouse being the first completed (October 1867). It is possible that the 16 dugouts recorded during the current investigation were at least a portion of the living quarters for the soldiers while the fort was under construction or were used for supplementary housing.

Throughout the history of the fort, a series of maps were developed that present at least a general history of the architectural history of the fort. After the initial maps (Figures 3-1 and 3-2), a July 1869 map (Figure 3-3) was produced, which was modified sometime the following year (Figure 3-4). A series of maps (Figures 3-5 to 3-10) have been collected that show the evolution of the built environment.

The Fort Hays military reservation was abandoned in 1889, and it was initially transferred to the Department of the Interior to be sold to the highest bidder. At this time, an inventory was conducted, documenting 36 buildings. Many of these buildings were relocated and used as private residences or for the agricultural experimental station. Eight of these buildings were relocated and used as private residences or for the agricultural experimental station. The Surgeons Quarters were moved to the Agricultural Station and used for housing. Three other unnamed buildings were moved to the Station and used as a barn, tool shed, and storehouse. Four of the Officers Quarters were sold at auction and moved into the City of Hays. Two of these were later torn down, while the other two were moved back to the Museum site and sold for scrap (Bob Wilhelm, Personal Communication 2005).

Pressure from the local community was placed on their State Congressmen to set aside a portion of the reservation to the State of Kansas for use as an agricultural experimental station started as early as 1880. Legislation was introduced in 1889 in the form of a petition to the U.S. Congress to donate the land to the State of Kansas. Additional legislation were introduced in 1891 to donate portions of the reservation to the State of Kansas for use as an agricultural station and park; the fort proper was to be used as a Normal School. This legislation was not passed by the State of Kansas until 1895; it was then sent to the U.S. Congress and finally confirmed when President Cleveland signed it on March 28, 1900 (Bob Wilhelm, Personal Communication 2005; Call and Aicher 1963). Following the signing by President Cleveland, the State initiated use of the 3,700-acre reservation as the agricultural experimental station and the fort proper as the Western Branch of the Normal School at Emporia. The school was moved to the current location of Fort Hays State University in 1904 and renamed the Fort Hays Normal School in 1914 (Pankratz 1979:51-52; King 1999:8). The name of the school changed three more times (Forsthye 2002):

1) 1923-Kansas State Teachers College of Hays
2) 1931-Fort Hays Kansas state College
3) 1977-Fort Hays State University

The 1922 atlas (Ogle 1922) shows some of the buildings of the fort, agricultural experimental station, Normal School, and mentions the "Golf Grounds" (Figure 3-11).

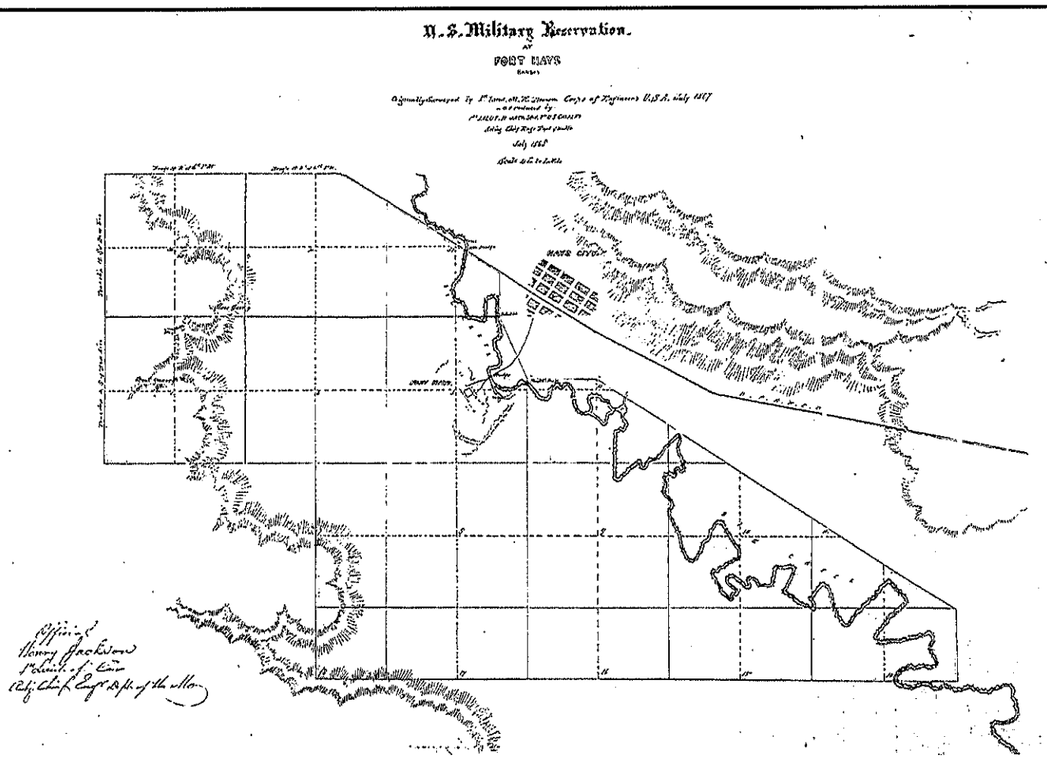
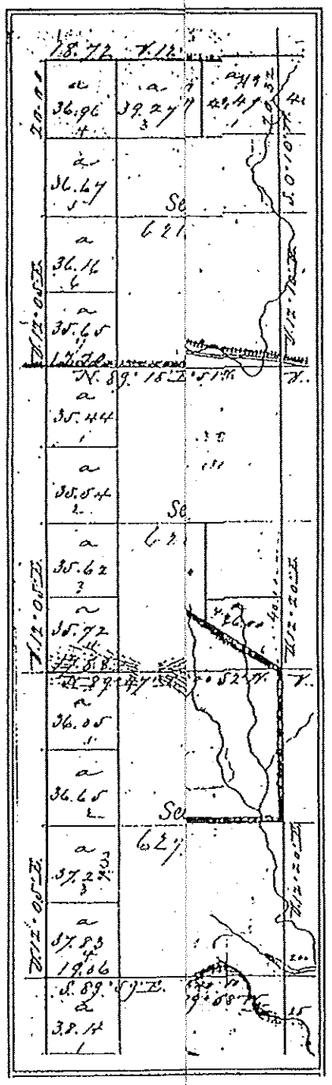


Figure 3-1
Fort Hays, 1867
(Brown1867)



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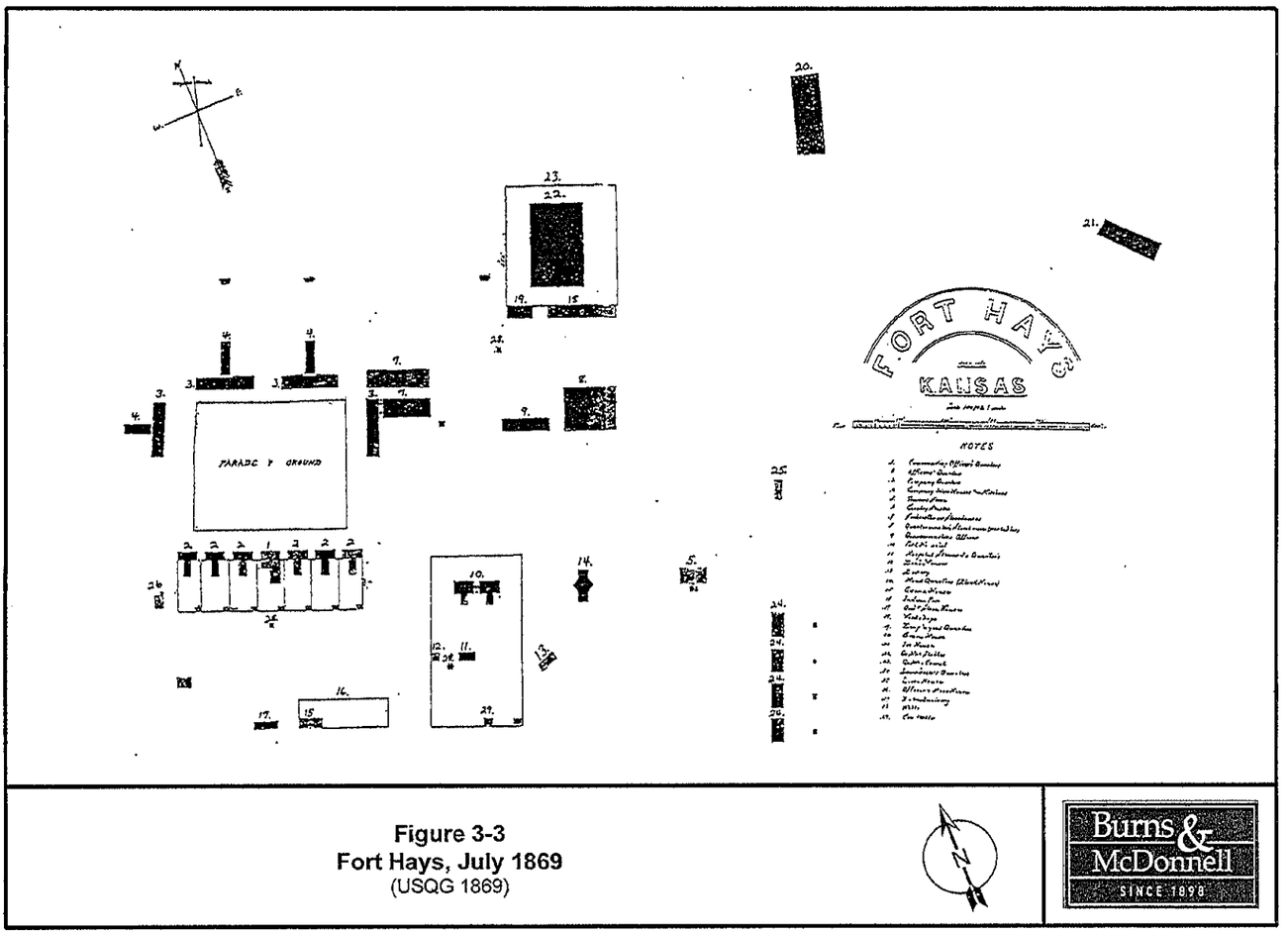

Figure 3-3
Fort Hays, July 1869
(USQG 1869)

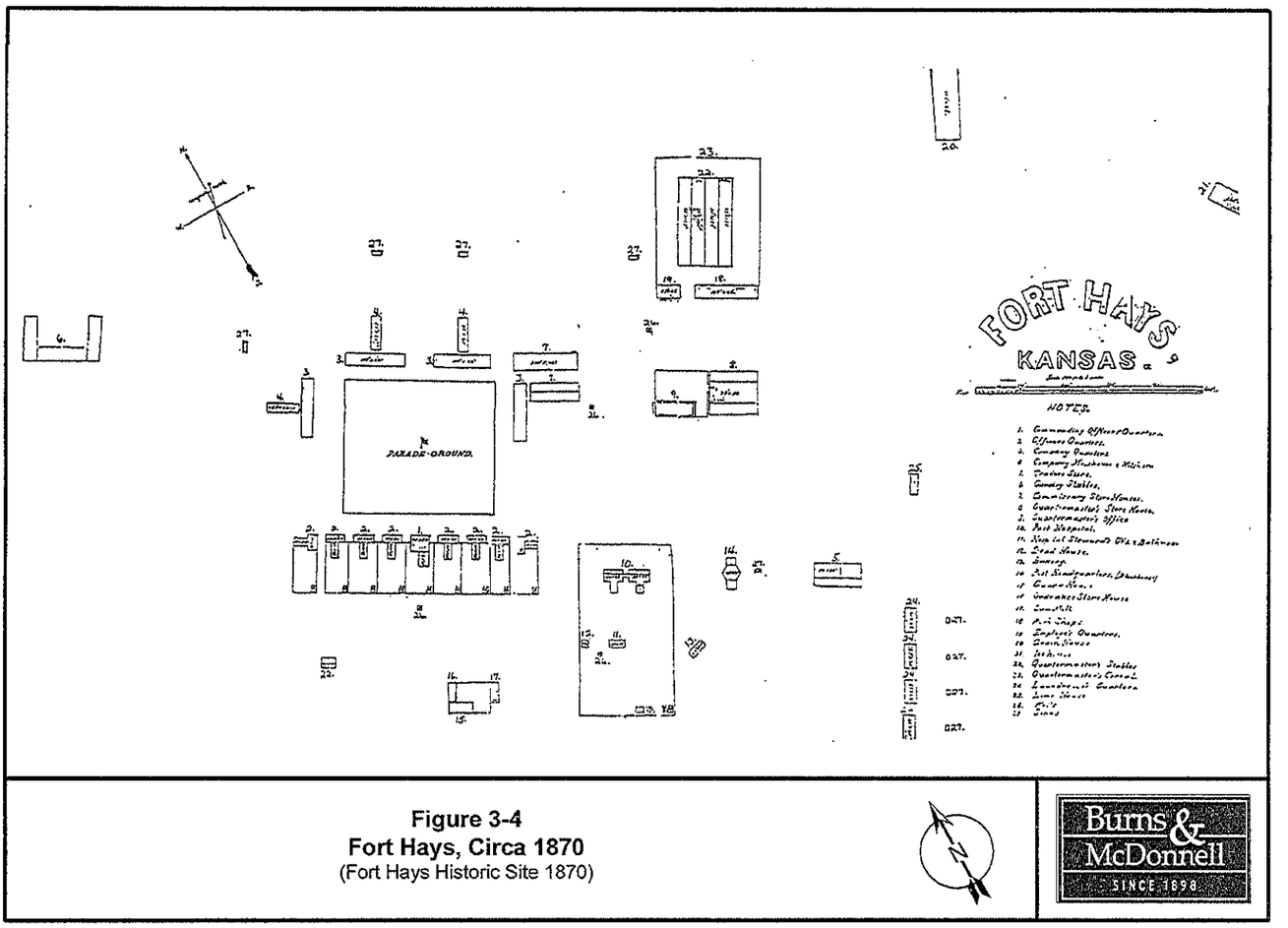

Figure 3-4
Fort Hays, Circa 1870
(Fort Hays Historic Site 1870)

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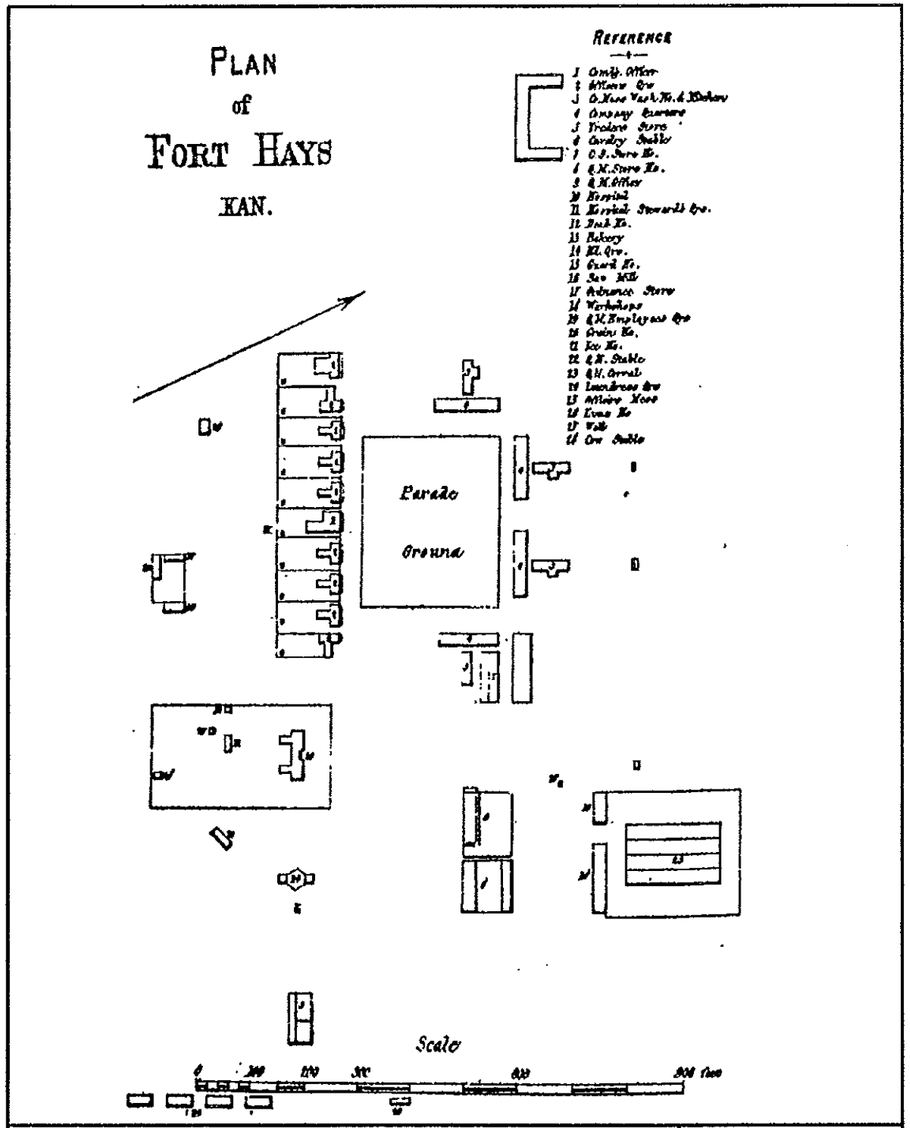


Figure 3-5
Fort Hays, 1876
(USA, MDM 1876)

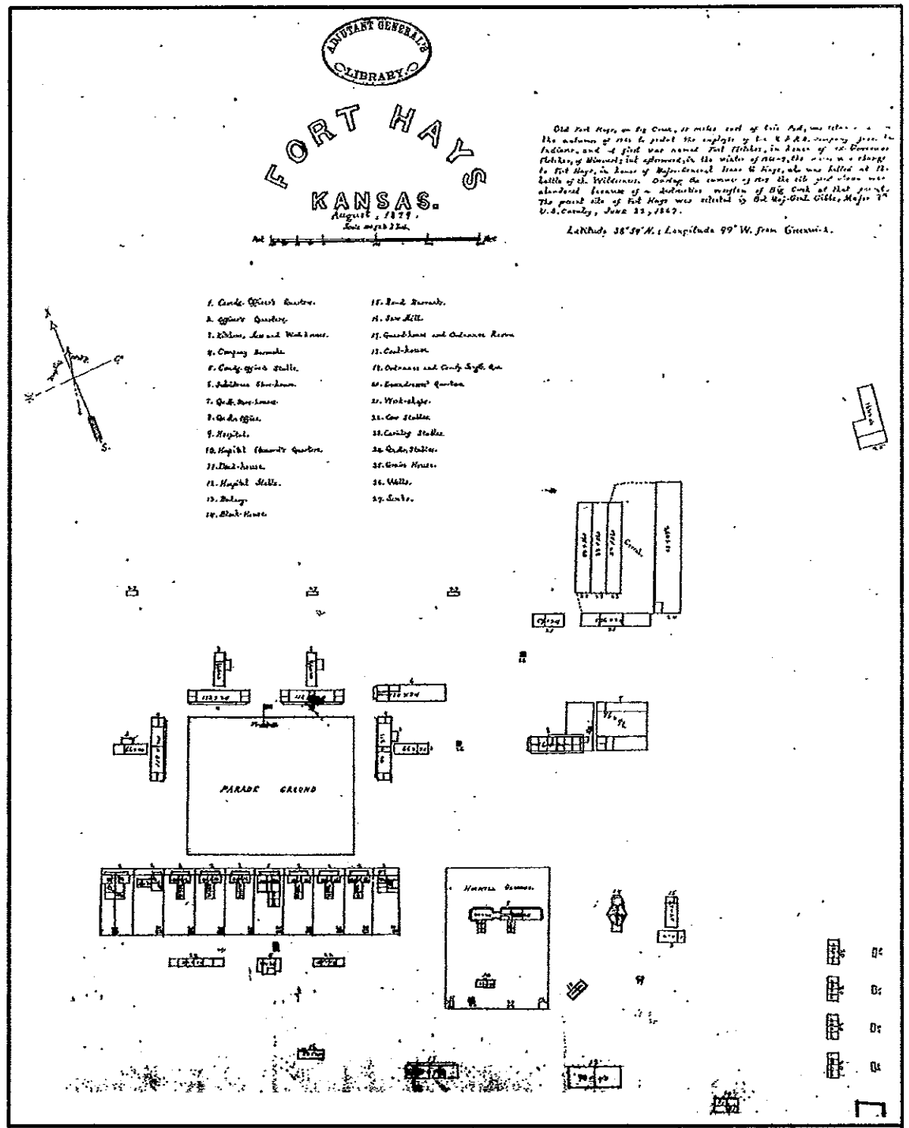


Figure 3-6
Fort Hays, August 1879
(USAGL 1879)

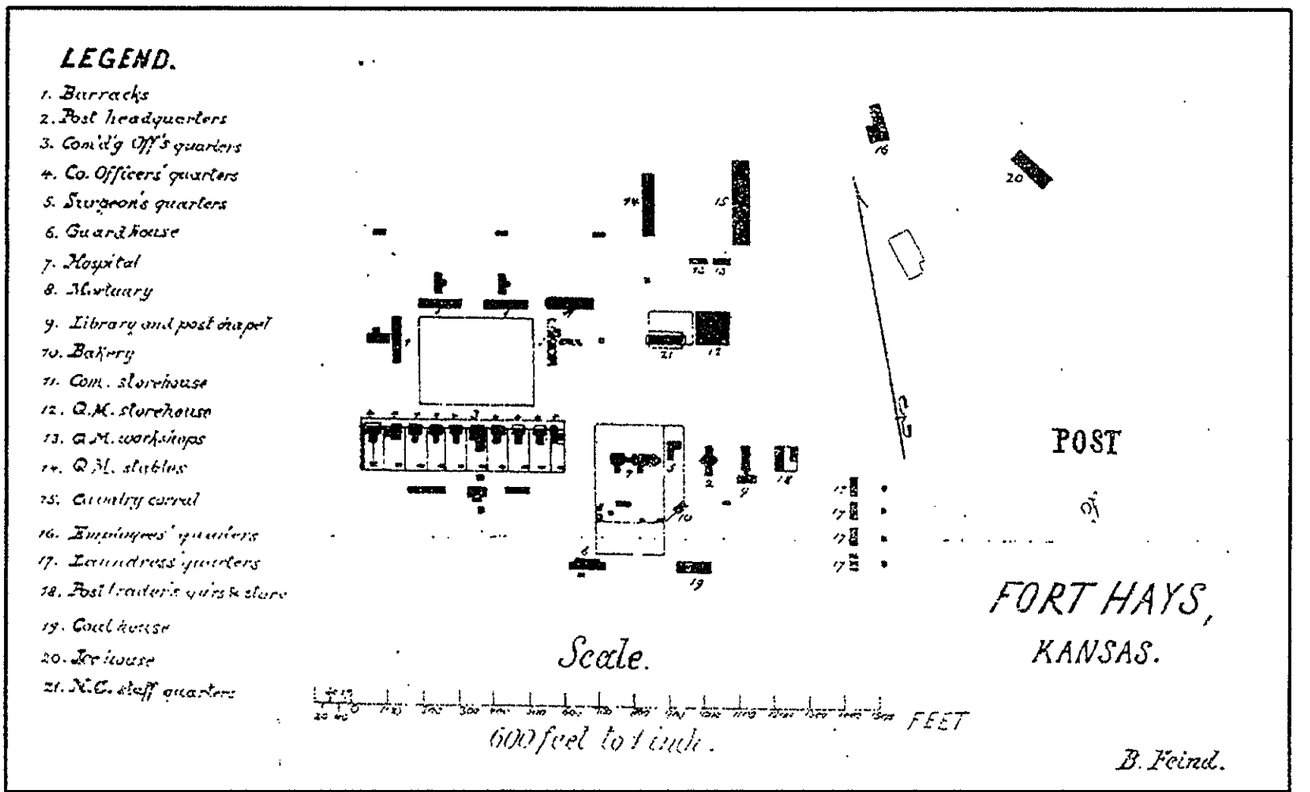


Figure 3-7
Fort Hays, Circa1879 to 1880
(Feind ca 1879-1880)

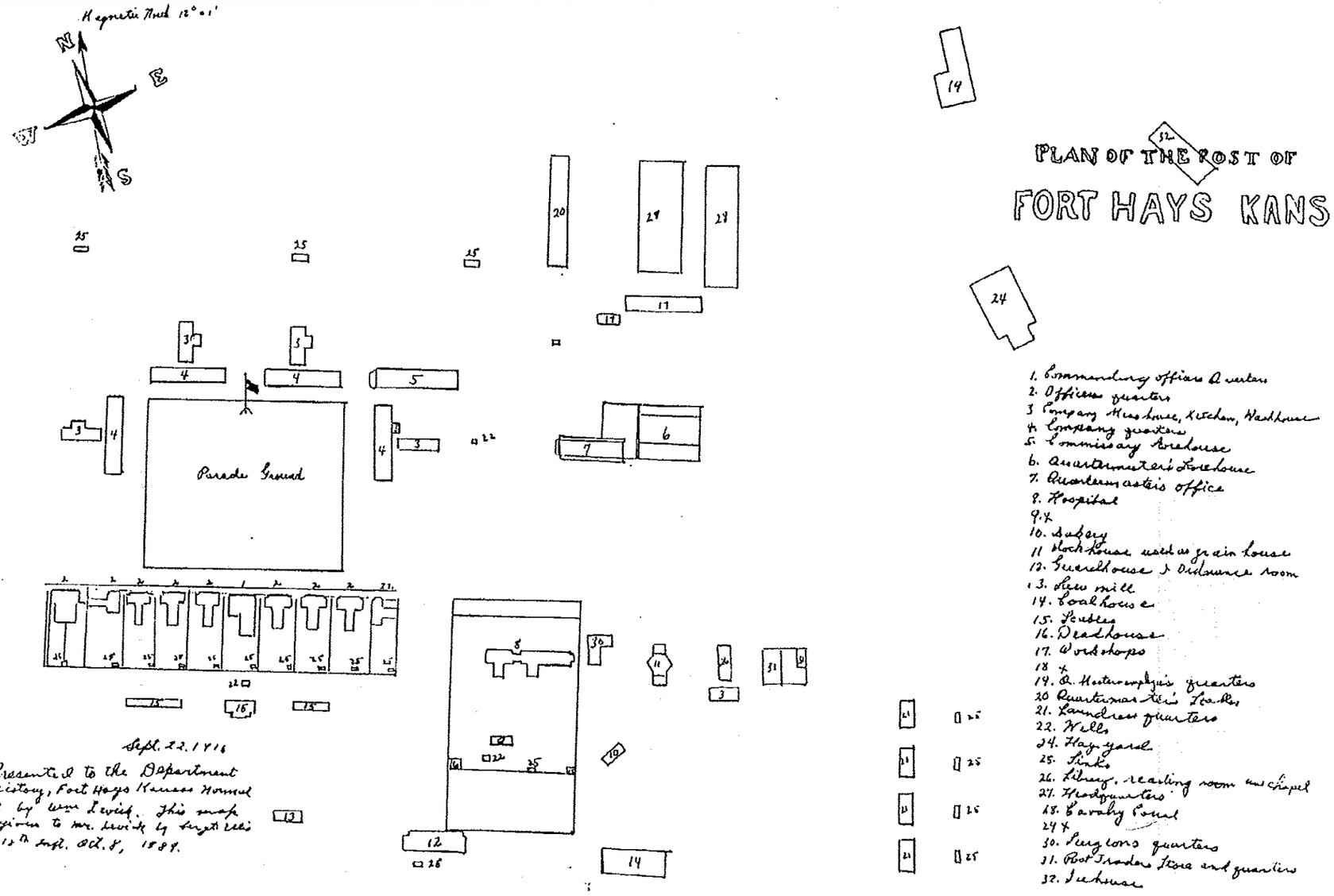
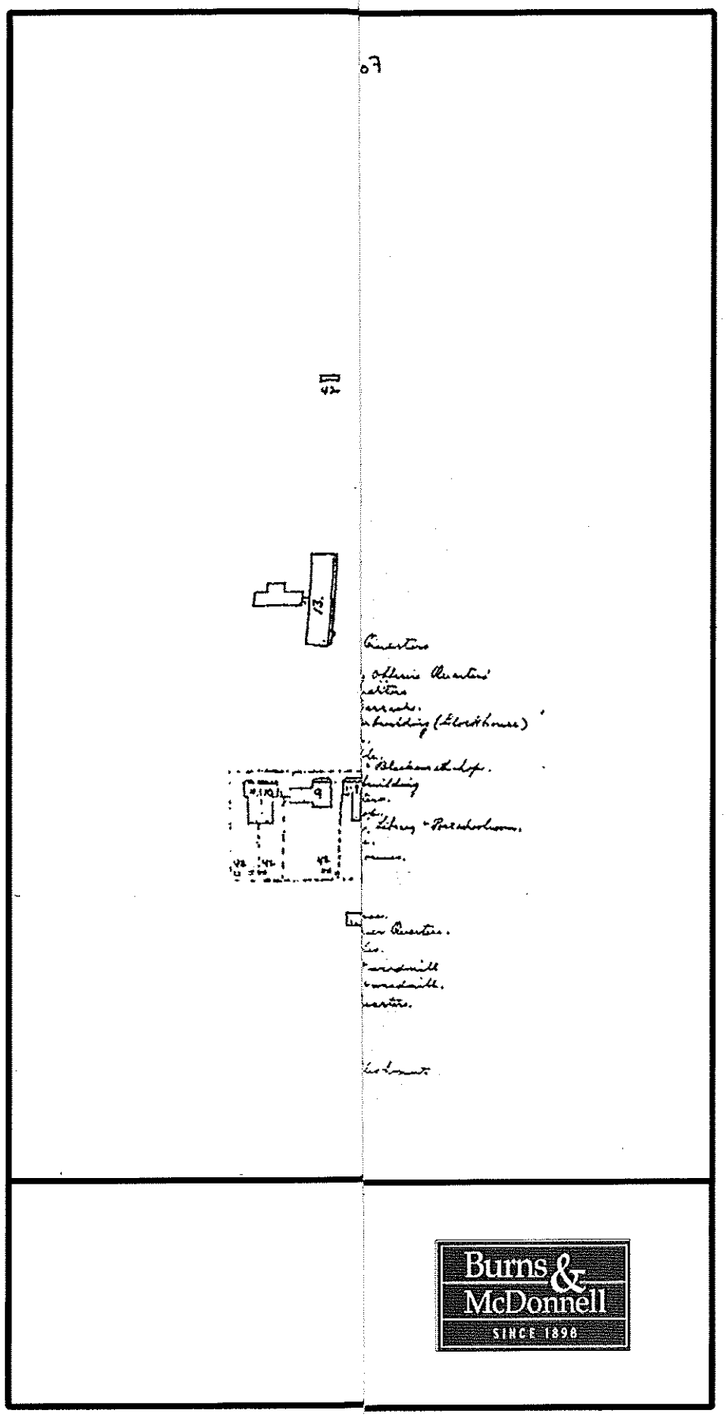


Figure 3-8
Fort Hays, Circa 1880 to 1885
(Ellis ca 1880-85)


67
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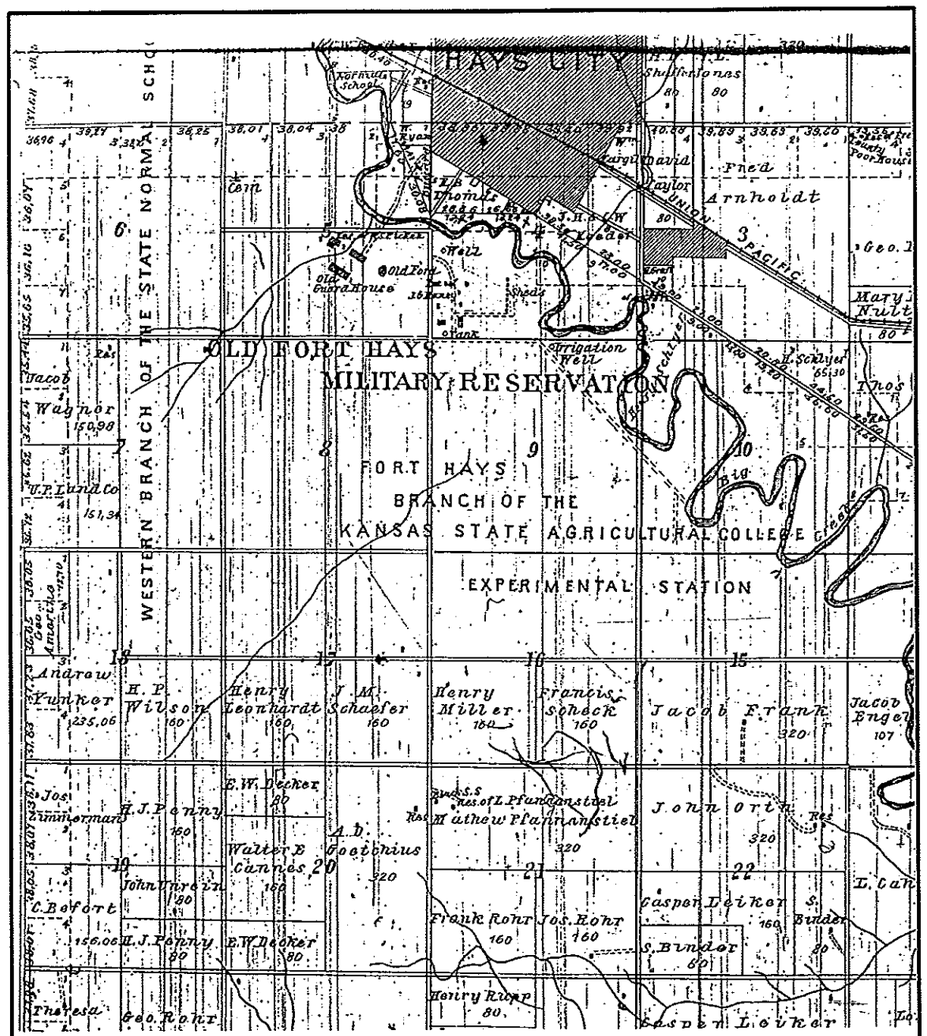

Figure 3-10
Fort Hays Area Plat Map, 1905
Standard Atlas of Ellis County, KS (Ogle 1905)

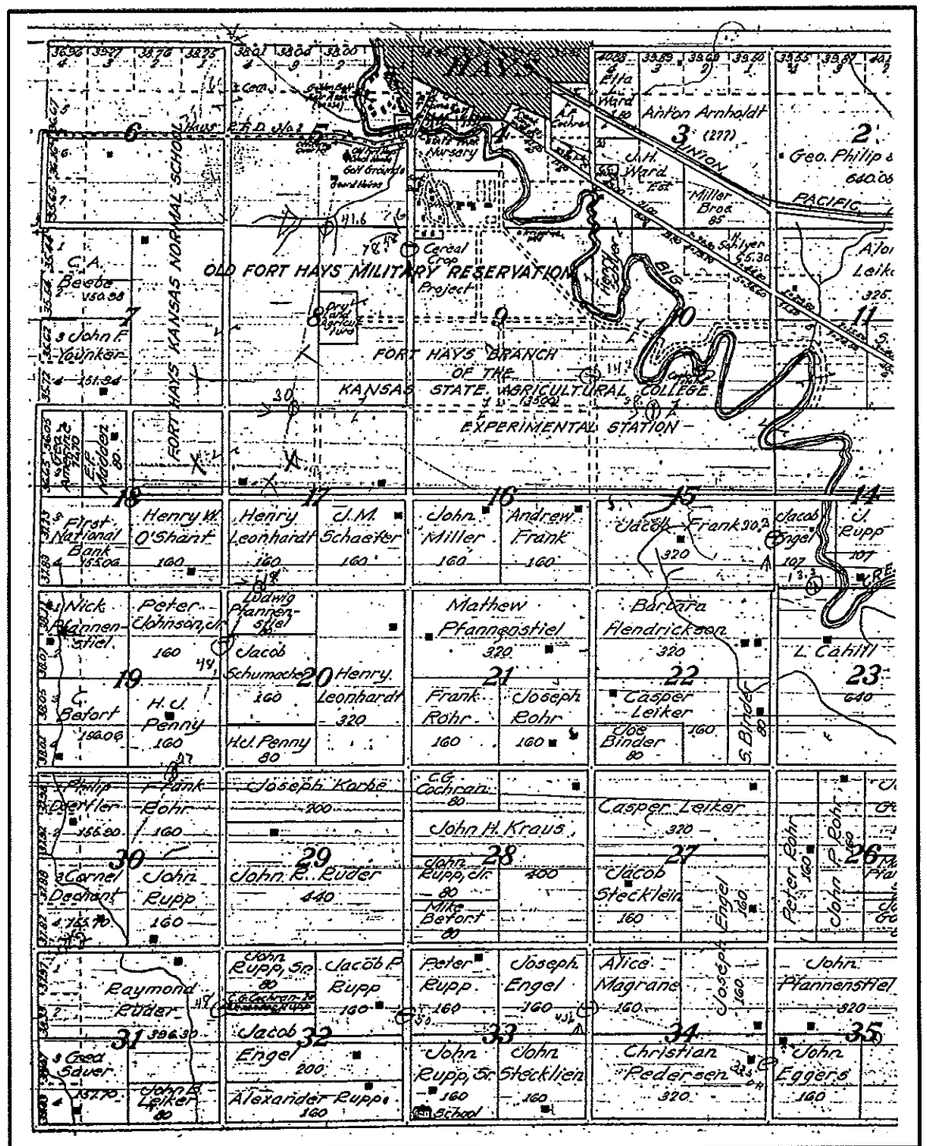

Figure 3-11
Fort Hays Area Plat Map, 1922
Standard Atlas of Ellis County, KS (Ogle 1922)

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4.0 RESEARCH DESIGN AND METHODS

Archaeological investigations of the project area immediately followed a records search at the Kansas State Historical Society's site, map files, and research library. This search resulted in several historic maps and photographs being copied and used to help identify and interpret certain features found during the current investigation. In a March 4th, 2005 meeting, Bob Wilhelm, Fort Hays State Historic Site Curator, provided copies of additional historic maps and information about the possible features within the golf course and the fifteen acres within the historic site grounds.

A variety of field methods were employed during the survey of the project area. The first task was to conduct a visual inspection, supplemented with shovel testing, of the golf course. After encountering numerous features and determining that the visual inspection of the ground surface was sufficient to identify the features present, shovel testing was no longer employed. This change of methods was concurred with by the Kansas State Historic Preservation Office (SHPO) during a telephone conversation with Will Banks on May 2, 2005.

The features were documented using a Trimble Global Positioning System (GPS), hand-sketched maps, and photography. The investigators also produced a brief written description of each feature. The depth and fill material of the numerous pit depressions were documented using an Oakfield corer.

5.0 RESULTS OF SITE EVALUATIONS

During the current investigation, 100 previously unrecorded historic features within Site 14EL301 were recorded. These features were scattered across the golf course and adjacent to the access road to the Fort Hays Visitor's Center. Types of features included rifle pits, dugouts, roads and trails, walking paths, foundation remains, oven/kilns, privy pits and other debris pits, and several unknown depressions. The features were identified through visual inspection of the project area with limited shovel testing and soil coring. Shovel testing was abandoned after it became apparent that cultural features and debris were easily observed on the surface and cutbanks of the project area. Soil probes were used in many of the features to determine depth and fill.

5.1 SITE 14EL301 (FORT HAYS) SUMMARY DATA

Site Type:	Military Fort
Component:	Historic Euroamerican and Native American (1865-1889)
Site Area:	100+ acres
Topography:	Ridges, tableland, terraces, and stream channels
Elevation:	1990 to 2020 ft. Above Mean Sea Level (AMSL)
Soil Type:	Roxbury-Eltree-Hord and Harney-Carlson-Armo soil association
Nearest Water:	Wells and intermittent tributary of Big Creek.
Field Method:	Visual inspection and limited shovel testing and soil coring
Site Condition:	Most of the features observed were in good condition, but golf course development and maintenance had adversely effected some.

5.2 SITE DESCRIPTION

Site 14EL301 includes the area of the second Fort Hays, a military facility established to protect Euroamerican travelers on the Smoky Hill Road and to protect workers constructing the railroad. The site is south of Big Creek, on the southwestern edge of Hays, Kansas. The NRHP site has been defined as the remains of the major buildings concentrated in what is the state historic site. The results of this investigation clearly demonstrates that the features associated with the site, throughout its history, are found scattered across the state-owned and City of Hays managed golf course.

5.3 PREVIOUS INVESTIGATION

Eight previous archaeological investigations have been undertaken at Fort Hays (14EL301). All of these investigations have been conducted by staff of the Kansas State Historical Society (KSHS) in the form of data recovery of known and prominent features within the fort proper. (Table 5-1).

Table 5-1 Previous Archeological Investigations at Fort Hays State Historic Site (14EL301)

Year	Supervisory Archeologist	Focus of Excavations
1966	Calabrese	Sutlers Store, 8 pit toilets (F#65, 66, 68, 89, 111, 141, and 143)
1967	Barr	House 1 (F222); House 2 (kitchen area only); House 3; House 4 (Commanding Officer's); 10 pit toilets [F#201 (H1), F#211 (H2), F#264 (H6), F#295 (H1), F#373 (H4), F#374 (H2), F#431 (H1)], 2 burn pits [F#220 (H3) and F#219 (H1, over F#336]; and middle F#309 (H7 or 8)
1968	Barr	House 4; House 5; House 6; House 7; House 8; House 9; West Barracks (A681); Well in Hospital Area (F#585); Hospital Area (A683); Hospital Cistern (F#612; East Barracks (A682, including mess, kitchen, and washhouse); Mess Hall foundation (A681); 4 pit toilets [F#549 (H9), F#583 and 589 (West Barracks)]; and F#617 (Hospital)
	Witty	Dump No. 1 (A685)
	Witty	Well near visitor's center
1969	Barr	Hospital (A691); Hospital cistern drain (F717; Ground Outlining, Officer's Row; 7 pit toilets, F#656 (H6), and 6 features in Hospital area (F#648, 670, 671, 696, 699, and 736)
1970	Barr	Bakery (A701); Surgeons Quarters (A702); Coal Shed (A 703); Officer's Row ground outline stabilization; Dump No. 1 (A705); 4 pit toilets, F#810 (Quartermaster's Warehouse), F#821 (H7), F#822 (H8), F#834 (H8 intersecting F#822), and the Coal House
1990	Rowlison	Well house south of Post Hospital
1992	Reynolds and Rowlison	Blockhouse foundations
1998	Marsha King	Flagpole
After King 1999: (See: Barr 1967, 1969, 1970a, 1970b; Calabrese 1966; Reynolds and Stein 1994:19)		

5.4 PRESENT INVESTIGATION

The present investigation relied heavily on the historic maps and photographs, as well as previous archaeological and historic research, for identification of features. As a result of the current investigation, 100 features associated with the Euroamerican occupation of the site were documented (Figure A-1), but one feature, Burns & McDonnell Feature(BMF)58, was later determined to be associated with the golf course established around the site. Eight types of features were identified including 24 rifle pits,

16 dugouts, two ovens, ten walking or horse paths, 12 roads, four foundations, 26 pit/depressions, and six depressions of unknown function.

BMF58 was a foundation identified by the observation of a rectangular footing depression (Figure A-1; Photograph 5-1). The GPS mapping of this feature, places it directly on a structure plotted on the 1966 and 1983 photo revised Hays South 7.5″ quadrangle map (Figure A-2). Photographs taken in 1966 show this area was where a modern structure related to the golf course was located (Photograph 5-2). The clubhouse was located at the blockhouse, and is not considered as part of the NRHP site.

5.4.1 Rifle Pits

The 24 rifle pits that were documented were somewhat of a surprise, as the historic target range was some distance to the west and north. It is possible that these features were associated with non-firing drills or established as real or drill related defensive positions to protect the access to the fort. The later hypothesis is somewhat plausible, as the two main clusters of rifle pits were along established roads into the fort.

Two concentrations of rifle pit features were identified during the investigation (Photograph 5-3 and Figure 5-1). The first cluster of rifle pits (BMF2-3, 5-21, 24-25) was found along the western edge of the golf course, essentially along and within the first fairway (Figure A-1). The second cluster of rifle pit features (BMF72-74) is at the eastern end of the golf course, east of the ovens and the icehouse. These western features ranged in size from 5.2 to 11 ft. wide by 6 to 16.8 ft. long, whereas the eastern features were 7.3 to 9.2 ft. wide by 8 to 10 ft. long (Table 5-2). All of the pits within the fairways were three to five inches deep, while those outside the fairways are one to two inches deeper. The pits in the western cluster were generally rectangular in shape, while those in the eastern cluster were more square. Both sets were generally oriented parallel to roads; the Fort Dodge Road on the west side of the fort and another road (BMF75) on the east side of the fort. Many of these features were similar in construction, with a back dirt pile immediately adjacent to one side. The depth of the depressions and the prominence of the back dirt piles have likely been reduced because of years of compressing the ground with heavy rollers to maintain a level fairway.

Rifle pits were field defense fortifications and were commonly used during the Civil War and other military actions during the late 19th century. A rifle pit was constructed by excavating a pit, typically large enough for one or two soldiers with a slight parapet (a bank or cover) in the front.

Photograph 5-1. BMF 58, Rectangular Outline of Removed Golf Course Structure

5-2

5-3

Photograph 5-2. 1966 Aerial View of the Golf Course Buildings South of Block House, Area of Feature 58 (Courtesy of the KSHS)
Photograph 5-3. Overview of 1st Fairway and Rifle Pits, Looking North

Burns & McDonnell
SINCE 1898

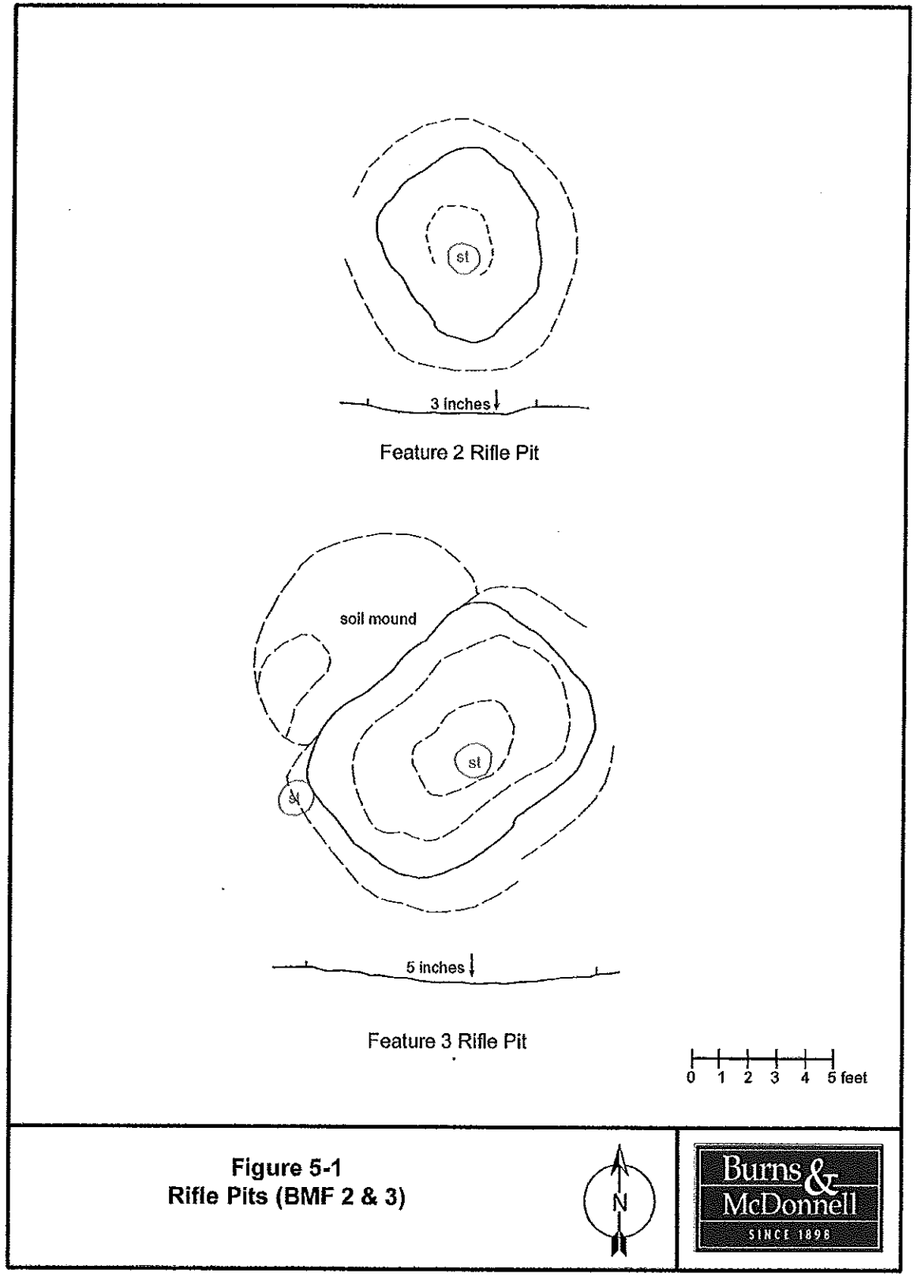

Figure 5-1
Rifle Pits (BMF 2 & 3)

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Burns & McDonnell
SINCE 1898

Table 5-2. Features, Site 14EL301

Burns & McDonnell Feature #	Feature Type	Width	Length	Orientation	Comments
1	Fort Dodge Road	33'	Unknown	SW-NE	Passes in front of Tee 1 and along practice green into golf course parking lot
2	Rifle pit	5.2'	6'	SW-NE	Along east side of 1st fairway
3	Rifle pit w/ mound	7'	9.8'	SW-NE	mound of back dirt to the NW of depression - along east side of 1st fairway
4	Wagon Road	12'	NA	SE-NW	Passes to west of guardhouse and connects with Fort Dodge Road at practice tee
5	Rifle pit w/ mound	8'	13'	NW-SE	w/ mounded back dirt to the south
6	Rifle pit	6'	8'	SW-NE	Along east side of 1st fairway
7	Rifle pit	6.6'	9.2'	SW-NE	Along east side of 1st fairway
8	Rifle pit	6.2'	8.3'	SW-NE	
9	Rifle pit w/ mound	11 to 8'	16.8	SW-NE	w/ mounded back dirt to the NE
10	Rifle pit w/ mound	12'	14.8'	SW-NE	w/ mounded back dirt to S & SE
11	Rifle pit	6'	8'	SW-NE	
12	Rifle pit w/ mound	6.2'	6.2'	E-W	w/ mounded back dirt to N, NE, E, & SE
13	Rifle pit w/ mound	7.8'	13.8'	E-W	w/ mounded back dirt to E
14	Rifle pit	5.5'	6.9'	E-W	Along west side of 1st fairway
15	Rifle pit	6.1'	8'	SW-NE	Along west side of 1st fairway
16	Rifle pit	6.1'	8'	SW-NE	Center of 1st fairway
17	Rifle pit	6.9'	11'	SW-NE	Cut by F 22
18	Rifle pit	5.2'	6.5'	SW-NE	Center of 1st fairway
19	Rifle pit	6'	9'	NW-SE	Outside fairway
20	Rifle pit	6'	8.2'	SW-NE	Outside fairway
21	Rifle pit w/ mound	6.8'	7'	N-S	w/ mounded back dirt to north
22	Foot/ horse trail	2.2'	Unknown	SE-NW	Established after F17
23	Foot/ horse trail	2.2'	Unknown	SE-NW	Parallels F22
24	Rifle pit	8.6'	11'	E-W	Isolated pit- Furthest east of western rifle pits
25	Rifle pit	6'	9.4'	E-W	Outside fairway
26	Road	12'	Unknown	SW-NE	To guardhouse
27	Road	9'	Unknown	N-S	From cluster of dugouts southeast of fort and splits into several roads
28	Dugout	16'	28'	SW-NE	Cut into SE facing cutbank in Fairway 4
29	Dugout	15.3'	19'	NE-SW	Cut into SE facing cutbank in Fairway 4
30	Dugout	17.1'	24	E-W	Cut into SE facing cutbank in Fairway 4
31	Dugout	14.2'	18'	SW-NE	Cut into SE facing cutbank in Fairway 4
32	Dugout	13'	19.9'	SW-NE	Cut into SE facing cutbank in Fairway 4; with 3 by 4 ft. depression outside NW wall
33	Dugout	16'	14.5'	SW-NE	Cut into SE facing cutbank in Fairway 4
34	Foot/ horse trail	2.4'	9.5'	NE-SW	Walking path from eastern dugout in cluster 1 to laundress quarters and fort
35	Depression/ pit	5.3'	9.5'	SW-NE	Area of Laundress quarters- filled with sand; depression 2 in. deep
36	Depression/ pit	8'	9.9'	SW-NE	Area of Laundress quarters- filled with sand; depression 3 in. deep
37	Depression/ pit	8'	10'	NE-SW	Area of Laundress quarters- filled with sand; depression 3 in. deep

Table 5-2. Features, Site 14EL301

Burns & McDonnell Feature #	Feature Type	Width	Length	Orientation	Comments
38	Depression/ pit	4.2'	12.4'	NE-SW	Area of Laundress quarters- filled with sand; depression 3 in. deep
39	Depression/ pit	5	12.6'	NE-SW	Area of Laundress quarters- filled with sand
40	Depression/ pit	7'	9.5'	E-W	Area of Laundress quarters- filled with sand
41	Depression/ pit	6'	8.5	E-W	Area of Laundress quarters- filled with sand
42	Depression/ pit	5'	8'	ENE-WSW	Area of Laundress quarters- filled with sand
43	Depression/ pit	6.5'	7.2'	NE-SW	Area of Laundress quarters- filled with sand
44	Depression/ pit	5.2'	11.5'	NE-SW	Area of Laundress quarters- filled with sand
45	Depression/ pit	5.5'	11'	NE-SW	Area of Laundress quarters- filled with sand
46	Depression/ pit	9'	12'	NE-SW	Area of Laundress quarters- filled with sand
47	Depression/ pit	5.2 to 7'	15.2'	E-W	Area of Laundress quarters- filled with sand
48	Depression/ pit	6.2'	9.2'	NE-SW	Area of Laundress quarters- filled with sand
49	Depression/ pit	7.1'	9.9'	NE-SW	Area of Laundress quarters- filled with sand; depression 3 in. deep
50	Depression/ pit	9'	12'	ENE-WSW	Area of Laundress quarters- filled with sand
51	Cellar/foundation	Unknown	Unknown	N-S	Laundress structure buried; aproximately 19,626 sq. ft. area
52	Wagon road	14'	Unknown	E-W	Cuts through center of laundress foundation area
53	Depression	11'	11.3'	N-S	Filled with gravel
54	Dugout	11'	15'	NW-SE	on slope in 7th fairway
55	Dugout	11.2'	14.9'	SE-NW	on slope in 6th fairway
56	Road	22'	NA	N-S	to block house
57	Qtr Mstr complex foundations	Unknown	Unknown	E-W	Exposed along access road to State visitor center
58	Foundation	10'	25'	E-W	rectangular Impression just east of coal house
59	Depression	10'	18'	NW-SE	Sand filled depressions- poss. Quartermaster surgeon quarters
60	Depression/ pit	6'	10'	NW-SE	Filled
61	Dugout	8'	12'	N-S	S of Fort- dugout in west facing bank of intermittent drainage
62	Ice house	30.1'	31'	N-S	Repeatedly filled in- continues to settle
63	Foot/ horse trail	2.1'	NA	N-S	Parallel walking paths up south facing cutbank
64	Depression	6'	15'	E-W	w/ limestone fragments in south facing edge of ridge - same landform holding ovens (F65 & 66)
65	Kiln/ oven	8'	16'	E-W	northern oven
66	Kiln/ oven	12'	18'	E-W	southern oven
67	Foot/ horse trail	2'	12'	E-W	Walking path N of kilns- cut into same face as ovens
68	Foot/ horse trail	2'	10'	E-W	Walking path S of kilns- cut into same face as ovens
69	Road	20'	Unknown	NE-SW	Passes between ovens and icehouse
70	Foot path	2.4	13'	N-S	Foot path west of icehouse, connects with F69

Table 5-2. Features, Site 14EL301

Burns & McDonnell Feature #	Feature Type	Width	Length	Orientation	Comments
71	Road	8'	Unknown	SE-NW	Road from S that drops down cutbank south of ovens to connect with F69
72	Rifle pit	7.1'	9'	SW-NE	On ridge east of Features 65 and 66
73	Rifle pit	9'	9.1'	SE-NW	On ridge east of Features 65 and 66
74	Rifle pit	8.1'	8.1'	E-W	On ridge east of Features 65 and 66; depression 3 in. deep
75	Wagon swales	45'	Unknown	N-S	3 sets
76	Depression	8.2'	9.8'	NW-SE	Oblong shaped depression 3 in. deep
77	Trail/ road	12'	Unknown	N-S	West of dugouts listed below- 3 swales
78	Trail/ road	12'	Unknown	E-W then N-S	Runs E-W then turns north along F75
79	Wagon swales	12'	NA	N-S	Runs east of Laundress quarters
80	Foot/ horse trail	2.2"	NA	SW-NE	From area of laundress quarters and joins F 77- follows contours
81	Dugout	19'	12.2'	N-S	dug into west bank of stream in 7th fairway; depression 7 in. deep
82	Dugout	9.3'	12'	N-S	dug into west bank of stream in 7th fairway; extended entryway to east (8.2 by 6.3 ft.); depression 7 in. deep
83	Dugout	4'	4.7'	N-S	dug into west bank of stream in 7th fairway
84	Depression	8.9'	9.2'	N-S	Small depression between dugouts F82 & 83; mounded berm along western edge
85	Dugout	8'	9.3'	N-S	dug into west bank of stream in 7th fairway
86	Depression	9.4'	11.2	N-S	off the bank to the W of the dugout row; depression 7 in. deep
87	Dugout	10'	13.2'	NW-SE	on the N side of F 68, along west bank of stream channel; extended entryway to SE (8.2 by 5 ft.); depression 8 in. deep
88	Dugout	12'	27'	SW-NE	Essentially a large trench
89	Depression/ pit	9.9'	10'	E-W	In line
90	Depression/ pit	7.8'	9.4'	E-W	In line
91	Depression/ pit	8.2'	8.2'	E-W	In line
92	Depression/ pit	9'	9.5'	E-W	Privy/ trash pits w/ campsite
93	Depression/ pit	9.5'	11'	E-W	Privy/ trash pits w/ campsite
94	Depression/ pit	8'	8.2'	E-W	Privy/ trash pits w/ campsite
95	Depression/ pit	8.5'	9'	E-W	Privy/ trash pits w/ campsite; depression 12 in. deep
96	Depression/ pit	7.9'	22.9'	E-W	Off cutbank; depression 12 in. deep
97	Depression/ pit	5'	9'	E-W	Off cutbank; depression 12 in. deep
98	Dugout	9'	12.4'	SE-NW	Large dugout in creek bank facing NE
99	Foot/ horse trail	2'	NA	N-S	Path cut in cutbank of stream along a flat terrace
100	Foot/horse trail	2'	NA	N-S	Swale or road likely connected to F69

This parapet added to the protection of the soldiers, between them and their target or enemy position. The parapet of the rifle pits in cluster 1, represented by a slight rise or pile of soil, are found in a variety of positions or sides. The variety in distribution of the parapets indicates that these were not defensive positions, but rather features developed during drills, etc.

5.4.2 Dugouts

Sixteen historic dugout depressions were recorded during the current investigation (Table 5-2), including an isolated dugout depression (BMF61) and two clusters (cluster 1= BMF28-33; cluster 2= BMF81-83, 85-88, and 98) of other depressions along stream cutbanks and two others along the ridge slope (BMF54-55). All of the dugouts were along the banks of the stream channels. The two clusters were along the stream channel that winds through the eastern half of the golf course (Figure 5-2). An isolated dugout was along a tributary channel of the same stream and the remaining 15 dugouts are along the main channel downstream from BMF61 (Figure A-1).

The first cluster of dugout depressions (BMF28-33) (Table 5-2) is along the southern edge of the golf course, in the fourth fairway (Figure A-1 and Photograph 5-4). These six dugout depressions were very closely bunched along the steepest portion of the creek bank (Photograph 5-5). All of the dugouts were cut into the bank and were facing southeast. The bank clearly affording at least limited shelter from the north winds. A trail or road (BMF27) passes through the creek channel, just east of the dugouts and traverses the ridge slope toward the fort proper. This road forks in several places, with each fork leading to another area of the fort. Clearly, the dugouts were connected to the entire fort and may have been additional housing for troops camped near Fort Hays, a common occurrence according to several accounts (Oliva 1980).

The second cluster of dugout depressions (BMF81-83, 85, 87-88, and 98) was in the seventh fairway, along the west or left bank of the stream channel (Figure 5-3; Photographs 5-6 and 5-7). As with the first cluster, these seven dugout depressions were dug into the cutbank and were closely tied to the extensive old road network observed at the site.

The architecture of numerous frontier forts included a variety of dugout structures. In Kansas, military forts such as Fort Ellsworth and Fort Zarah used dugouts as permanent habitations for troops (Ziegler 1996, 2001). Other forts, such as Fort Dodge (Rath 1964) and Fort Wallace, used them as temporary housing during construction of the main fort structures. The dugouts at Fort Dodge were excavated into the stream or riverbank and were four to five feet deep, covered with a tent. Other tents were generally close by, which, at Fort Hays, may have been on the level terrace just south of the second cluster

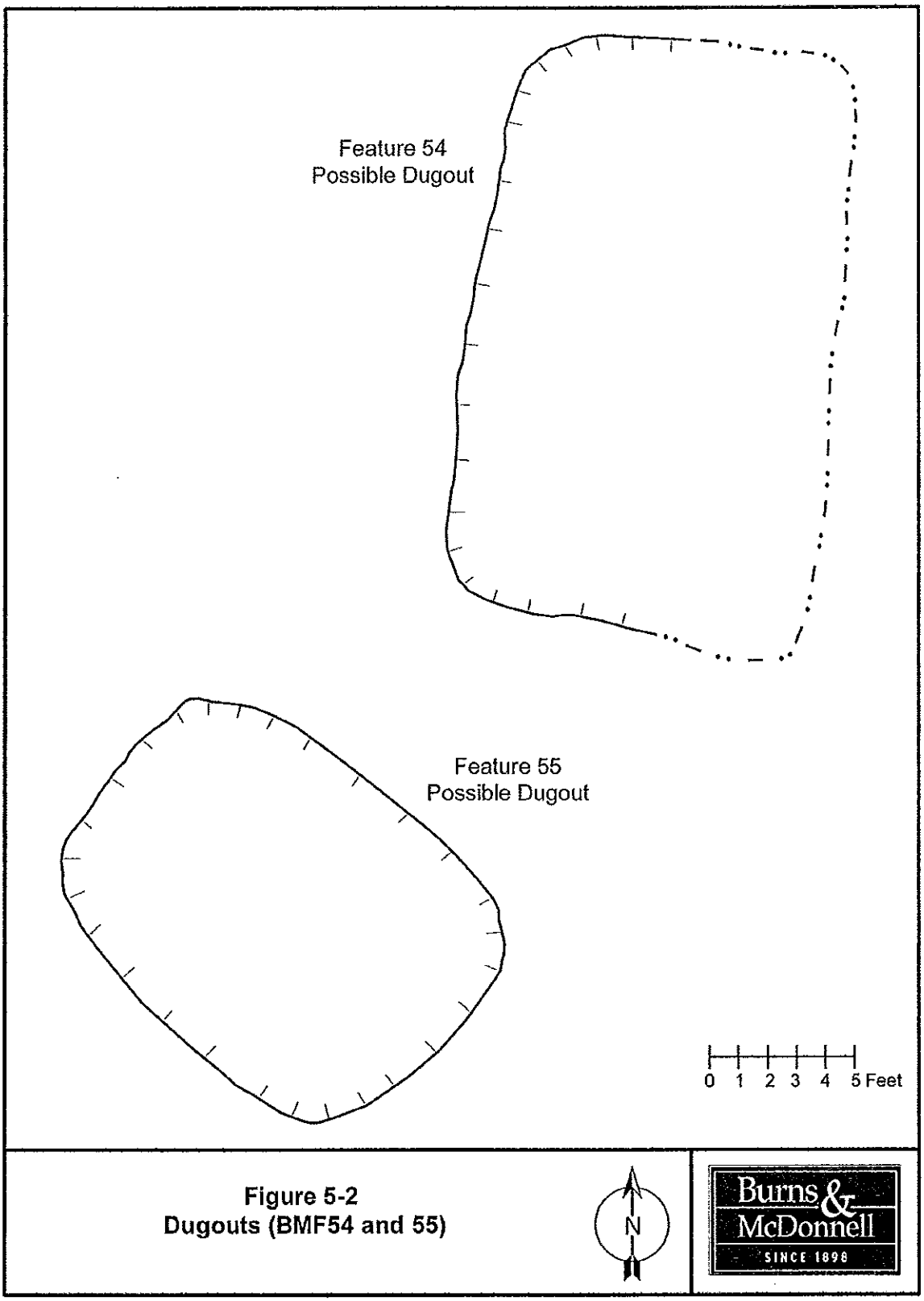
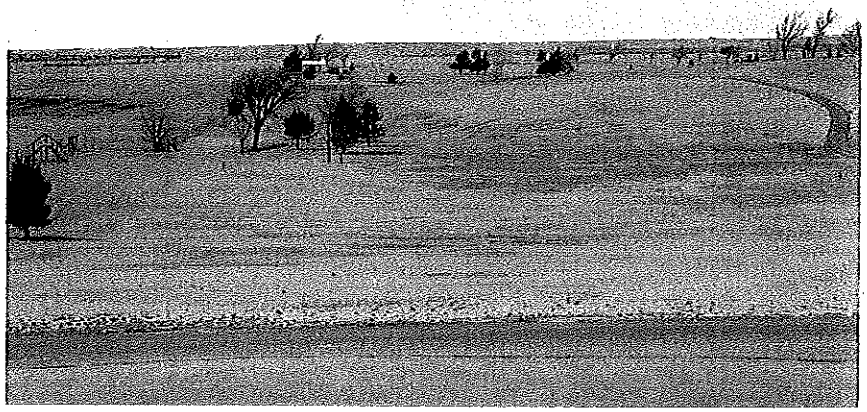


Figure 5-2
Dugouts (BMF54 and 55)



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Photograph 5-4. Overview of the 4th Fairway and Dugout Complex, Looking West
Photograph 5-5. Dugout Cluster 1

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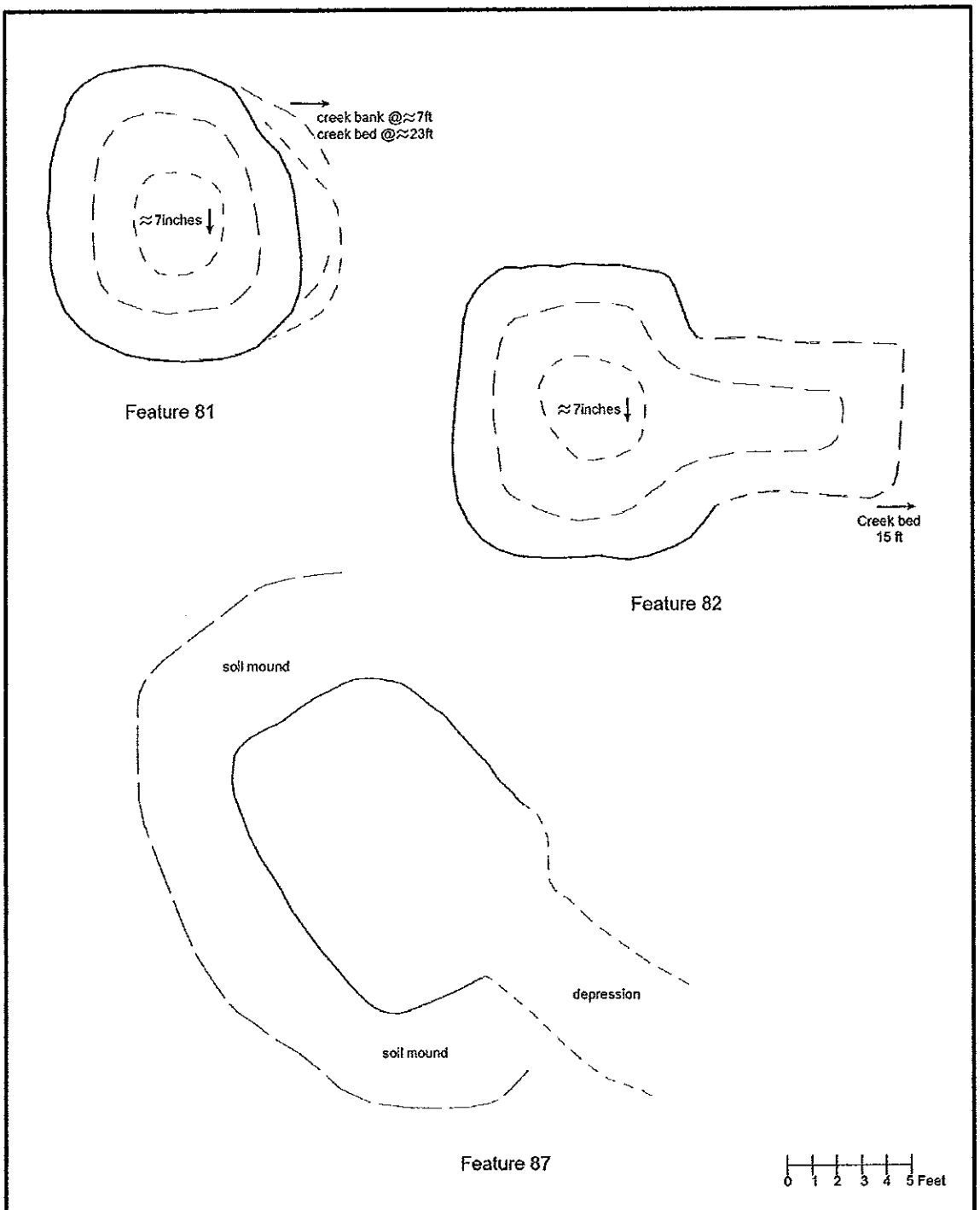

Figure 5-3
Dugouts (BMF81, 82, and 87)

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5-6

5-7

Photograph 5-6. Overview of the 7th Fairway and Cluster 2 Dugouts, Looking West
Photograph 5-7. Closeup View of Dugout Cluster 2, Looking South

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of dugouts (Rath 1964). This area had a series of pit privies and a pair of deeply incised walking paths leading down to the stream edge. Excavations of two dugouts at Fort Ellsworth found no evidence of what roofing material may have been used (Ziegler 2001:132).

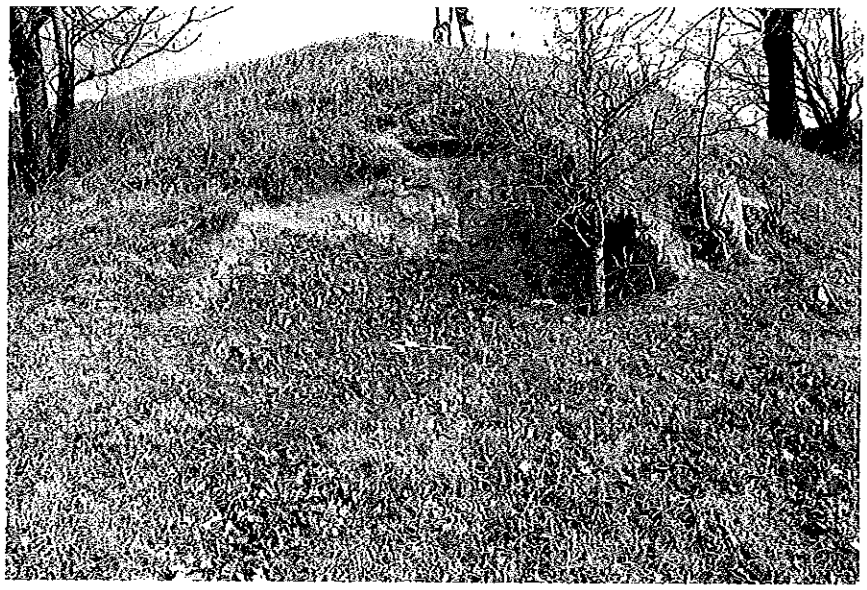
5.4.3 Ovens

The remains of two ovens (BMF 65-66) were documented along the high cutbank near the eastern end of the site (Figure A-1). Jeff Boyle, City of Hays Park Director, reported the location of these oven features before the investigation was undertaken. Bob Wilhelm, Fort Hays State Historic Site Curator, also discussed and described these features. Reportedly, there were three of these features at one time, but the third one had eroded away. This eroded feature may be the depression (BMF64) with limestone debris noted in the high cutbank, the south-facing portion to the north of the other ovens (Figure A-1). Many of the golfers playing through the area while the features were being recorded stated that the local lore on the features was that they were remains of fire pits made by Fort Hays State University students.

Both ovens appear in poor condition, but the southern oven (BMF66) is more complete, and was identified by the exposed heat altered limestone (Photograph 5-8), which does not naturally outcrop within this landform. The northern oven has eroded more and there was no visible thermally altered limestone (Photograph 5-9). No artifacts were observed in the eroded debris of these features, but a few shards of glass were observed just to the southwest of BMF66 (between BMF66 and the trail BMF71). It is possible that these ovens were related to the occupation of the dugout camp located to the west, just across the stream channel from the ovens.

5.4.4 Walking or Horse Trails

Of the ten walking or horse trails recorded, two forms were identified. Four of these features (BMF22-23, 34, and 80) are long, yet narrow paths essentially circling the periphery of Fort Hays proper (Figure A-1). The paths were 2 to 2.4 feet wide (Photograph 5-10). The other six paths were visibly much shorter, as they were identified along stream or landform cutbanks (BMF63, 67-68, 70, 99, and 100). These features were essentially accessing points along the stream or around the ovens and icehouse (Photograph 5-11).



5-8

5-9

Photograph 5-8. Feature 66 Oven, Looking East
Photograph 5-9. Feature 65 Oven, Looking East

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5-10

5-11

Photograph 5-10. Foot Path F22
Looking NW, passing along the edge of Rifle Pit F17

Photograph 5-11. Foot Path in Stream Bank
Looking South, by Dugout Cluster 2

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5.4.5 Roads or Trails

Twelve roads were documented during the current investigation. Two of these features were major arteries to the fort and local community. The most prominent of the roads was the Fort Dodge Road (BMF1), marked by a concrete sign along the western border of the golf course. This road angles across the northwest corner of the golf course, passing in front of the first tee and along the practice green and clubhouse parking lot (Figure A-1; Photograph 5-12 and 5-13).

The second most prominent road, BMF75, was found on the eastern edge of the golf course (Figure A-1). This road includes at least three wagon swales running north-south, just east of Kansas Highway 274 (Photograph 5-14).

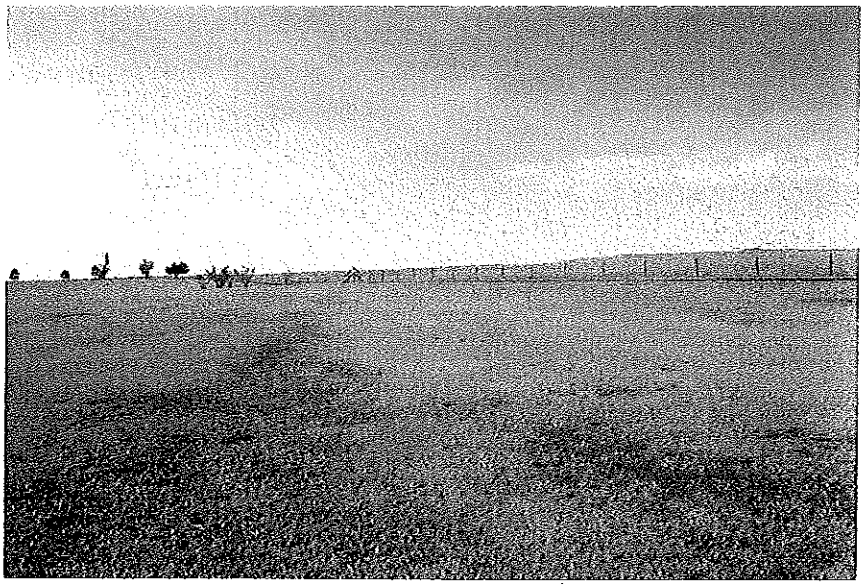
Excavation photographs of the numerous features excavated by the KSHS at the site show several of the roads/trails in the background. Photographs of the completed excavation of the Coal House in 1970, shows the swale of BMF26, the road/trail from the south that leads to the guardhouse (Figure A-1, Photograph 5-15). The western view of this excavation shows the newly established golf course clubhouse and other structures and parking (Photograph 5-16), a contribution in chronicling some of the modern land use changes.

The 1966 aerial photographs of the completed sutler's store excavation show some of the network of roads that can be observed today along the eastern end of the fort proper and the golf course (Photographs 5-17, 5-18, and 5-19). Within these views are BMF27, 52, and 77-80 (Figure A-1). The aerial photograph shows that the network is entwined and more complex than was viewed during the current investigation. Truly, aerial photographs can be important instruments when investigating surface sites.

Another cluster of roads was noted near the ovens and other features in the eastern portion of the site (Figure A-1); BMF68-70 were likely important means of transporting materials to and from the ovens and the icehouse, etc. These roads connect with the road network, clearly tying the features of the military fort together and showing how the landscape was used during the site occupation.

5.4.6 Foundations

Of the four foundations identified, only three are historic and are discussed here. The modern feature (BMF58) was discussed above. All three of the foundations discussed here were plotted on at least some of the historic maps presented in Section 3.



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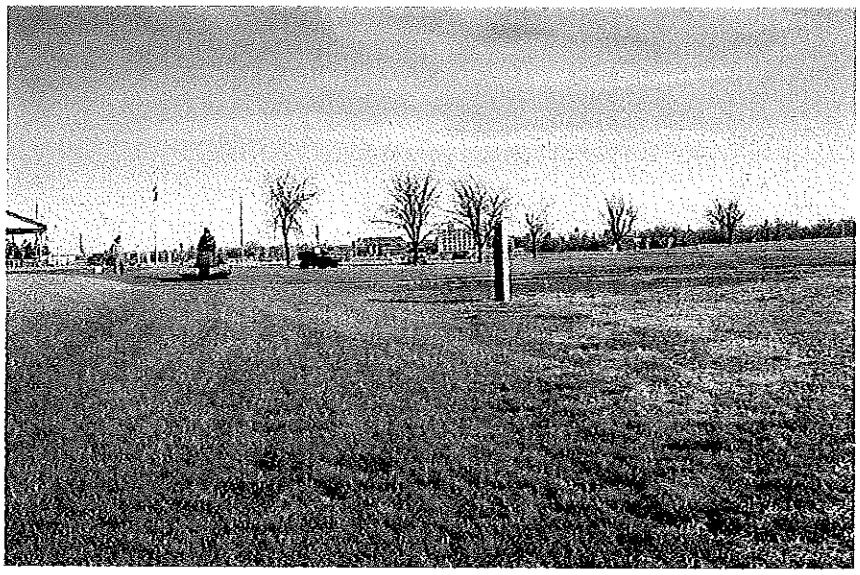

5-13

Photograph 5-12. Fort Dodge Road, Looking SouthWest
Photograph 5-13. Fort Dodge Road, Looking North

Burns & McDonnell
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Photograph 5-14. Wagon Swales on East Edge of Site
F75, Looking North

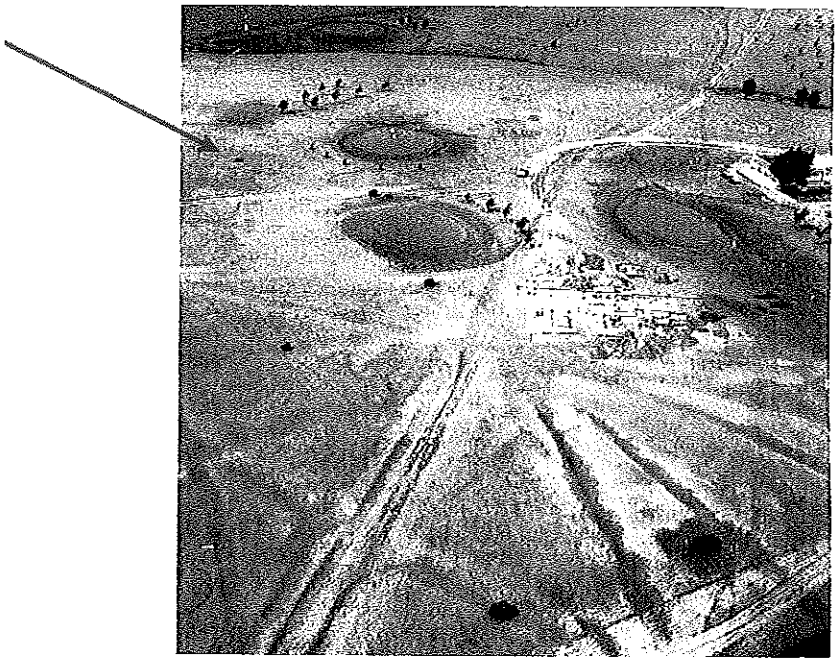
Photograph 5-15. Completed Coal House Excavation (7/30/1970), View of the West Wall, Looking South
Note Road Swale in Background (Feature 26) (Courtesy of the KSHS)

Photograph 5-16. 1970 Overview of the Coal House, Facing West
Showing newly established golf course Clubhouse (Courtesy of the KSHS)

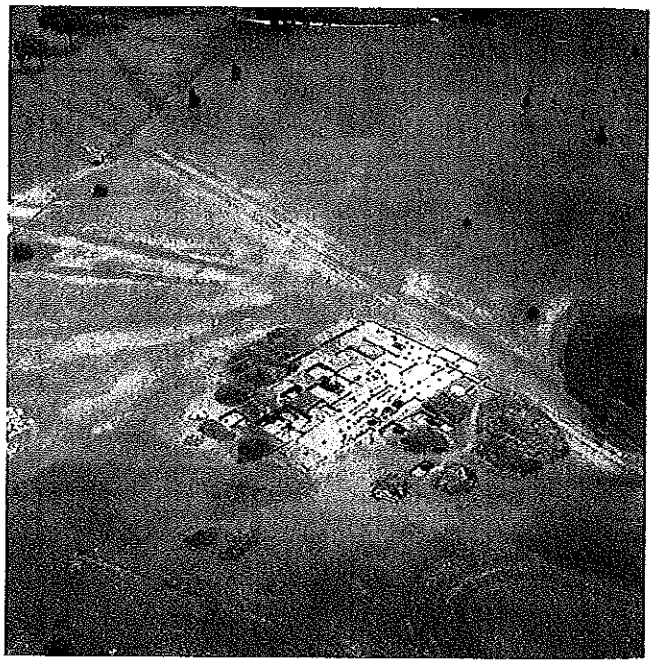
Burns & McDonnell
SINCE 1898

Photograph 5-17. Broad Aerial View of the 1966 Excavation of the Sutler's Store, Looking South
Showing network of old roads, location of Store, and Laundress Quarters
(Courtesty of the KSHS, 7/25/1966)

Burns & McDonnell
SINCE 1898



5-18



5-19

Photograph 5-18. Aerial View of the 1966 Excavation
View to South-Southwest, arrow indicates Laundress Quarters
Photograph 5-19. Sutler's Store, View to Northeast
(Courtesty of the KSHS, 7/25/1966)

Burns & McDonnell
SINCE 1898

During the investigation of the laundress quarters area, probing and coring of the soil determined that the foundations of the four main structures of this complex were still intact, buried just under the sand and grass. Time was not expended attempting to identify each structure, but the GPS was used to plot the location of the complex for any additional work and to assist the golf course personnel in avoiding damaging the features. This large polygon or area was assigned BMF51 (Figure A-1).

BMF57 was assigned to the remains of the quarter master complex near the state historic site access road and the by-pass (Figure A-1). This area is outside the current golf course, but within the area Burns & McDonnell was asked to survey. Two limestone foundations, apparently two walls of the same building, were observed in the eastern ditch cut of the access road. The portions of the foundation exposed appeared in poor condition (Photograph 5-20); but, probing along the linear features to the east indicated that additional portions of the features might still be intact.

The icehouse was assigned BMF62, but the foundation was not observed during the investigation. Bob Wilhelm, Fort Hays State Historic Site Curator, discussed this feature with us and indicated where it was located (Wilhem 2005). He indicated that, every year or so, the golf course maintenance crew has to dump additional materials into the icehouse as the fill continues to settle. We mapped the area that appeared to be fill (with some voids) with the GPS; and it is presented in Figure A-1 as a polygon near the eastern edge of the site.

5.4.7 Pit Depressions

Twenty-six of the features were pit depressions. Most of these small features were clustered in two areas. The first cluster, totaling 16 pits, was just east of and associated with the laundress quarters (Figure A-1). The cluster was identified on the 8th fairway, on the slope, just off the crest of the ridge. The privies are plotted on the historic maps (Figures 3-1 to 3-10) in a north –south line, just east of the laundress quarters. A close look at the aerial photographs taken in 1966 shows a line of small dots, which may be the privies (Photograph 5-17).

Each of the privies had a set of neighboring pit depressions (Figures 5-4 and 5-5). All of the pits were cored with an Oakfield soil core, but each were filled or capped with sand. Yet, the coring reached the upper limits of the deposits, which were found to be very dark soil and charcoal in the four pits in the line (thought to be the privies shown on the historic maps). The fill under the sand in the other pits was more representative of burn pits. This limited data still leaves the function or use life of the pits unsubstantiated, as excavation would be the most accurate means to determine their function.

Photograph 5-20. Exposed Foundations (BMF57), Quarter Master Complex Building, in Access Road Ditch

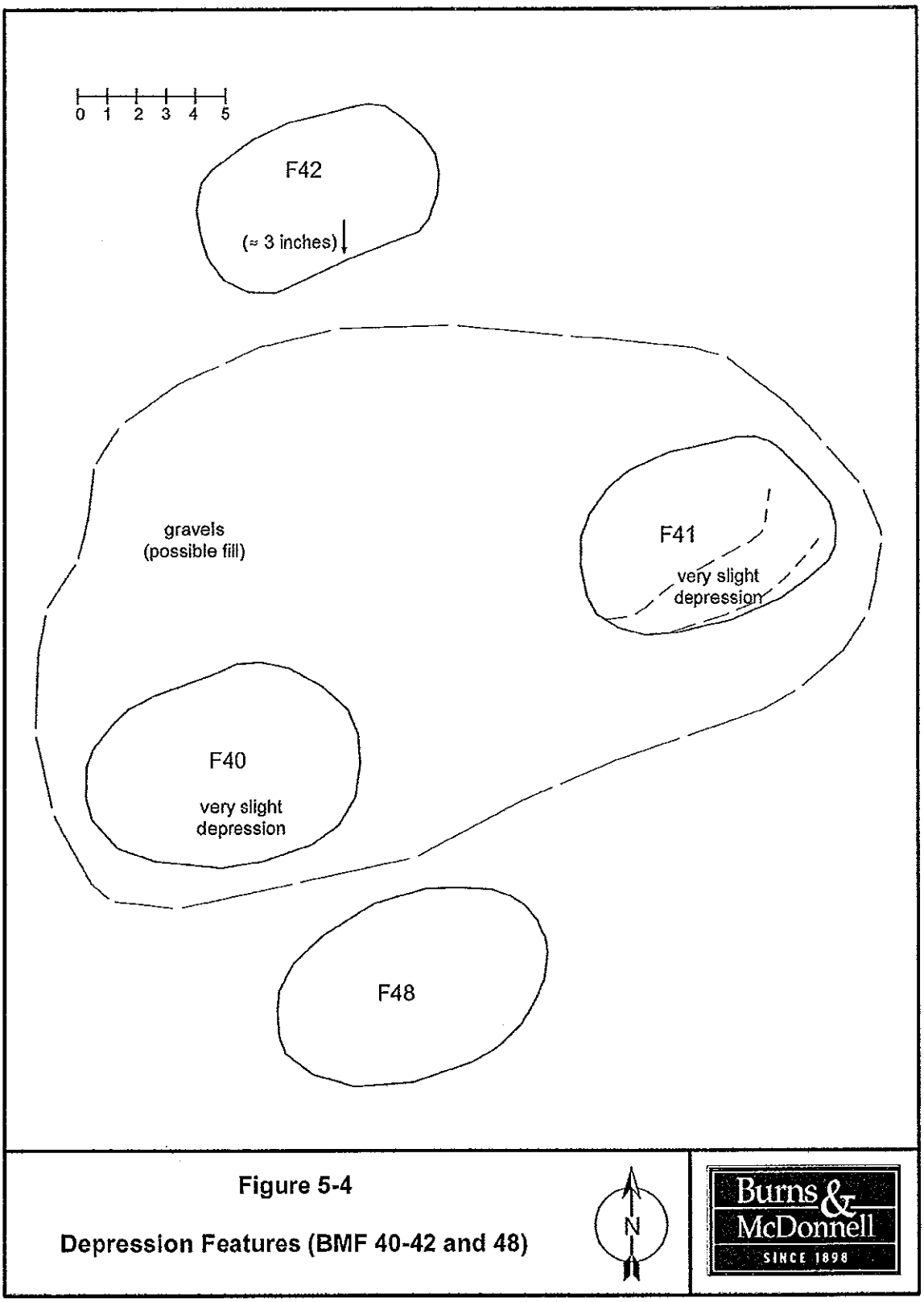


Figure 5-4

Depression Features (BMF 40-42 and 48)

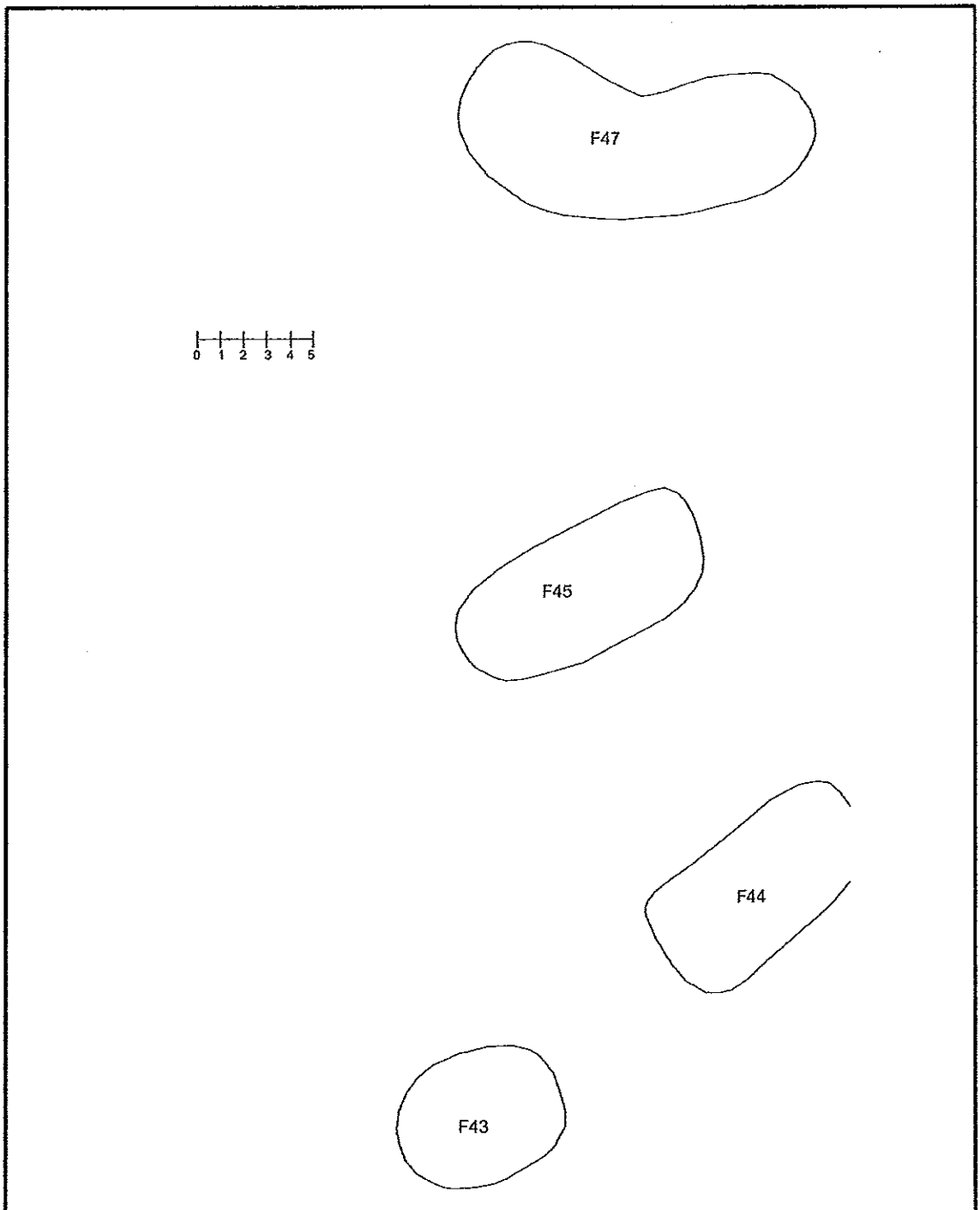


Figure 5-5

Depression Features (BMF 43-45 and 47)

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The other cluster of pit depressions was found on the level terrace along the intermittent drainage east of the fort proper, near the second cluster of dugouts, an ideal area for tent camping (Figure A-1; Photograph 5-21). Coring of these pits was limited to a small sample, as time was restricted. The three pits cored showed that they too were filled or capped with sand. The general shape of the pit depressions was somewhat irregular ovals, which is consistent with at least some of the pit toilets excavated by KSHS (Photograph 5-22).

Another pit depression was documented (BMF60) just southwest of the depression (BMF59) that was interpreted as the Ordinance and Commissary Sergeant's Quarter's plotted on the 1879 map (Figure 3-6). The map depicts the structure with a "sink" to the southwest of it. This is likely the location of BMF60, which was found southwest of the large depression. As with the privies of the laundress quarters complex, this privy is down slope from the habitation area, a clear indication of the importance of sanitation during this time. The pits around the dugouts were up-slope from the habitations, which, if these were of earlier construction, may be an indication of changing sanitary concerns at the fort.

5.4.8 Other Unknown Depressions

Six depressions of other functions were recorded. The function of most of the depressions can only be speculated at this level of investigation. However, there is one depression that was clearly plotted as a structure associated with the historic fort. The large depression (BMF59) recorded south of the blockhouse and in the 2nd fairway, actually contained a pair of depressions that appeared connected, and two limestone piers (Figure A-1; Photograph 5-23 and 5-24). A light artifact scatter was observed along the southern edge of the feature complex. One of the 1966 aerial photographs of the Sutler's store excavation shows a change in vegetation or a depression about 30 meters/yards east of the green adjacent to the laundress quarters (Photograph 5-14), essentially between the two feature complexes. This structural complex was listed as the Ordinance and Commissary Sergeant's Quarter's, which was plotted on the 1879 map (Figure 3-6).

The remaining five depressions (BMF53, 64, 76, 84, and 86) recorded are of unknown function. One of the depressions recorded may be the highly eroded remains of the third oven (F 64), as discussed above (Figure A-1). The remaining depressions may have been dugouts, but it is unclear as to their functions.

5-21

5-22

Photograph 5-21. Overview of Possible Pit Toilets BMF89 - 95
Near eastern dugout complex

Photograph 5-22. 1966 Excavation of Pit Toilet F144
(Courtesy of the KSHS 7/28/1966)

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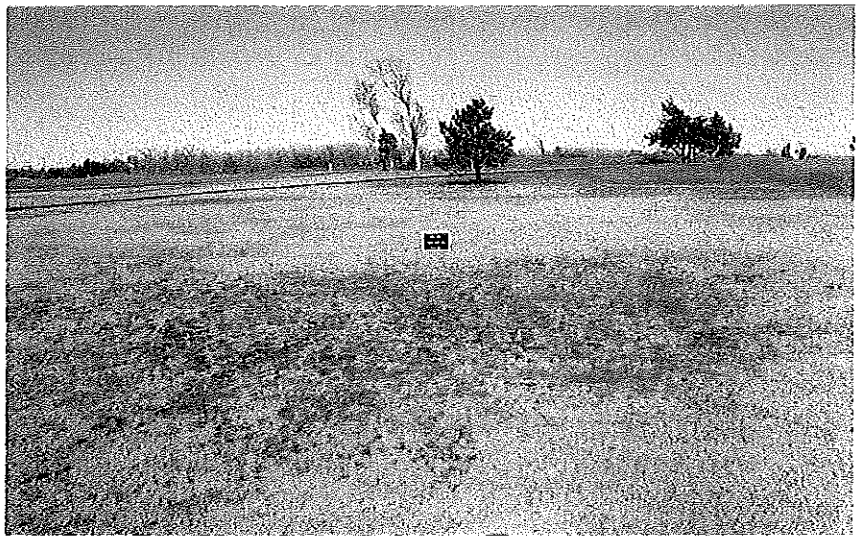
SINCE 1898



5-23

5-24

Photograph 5-23. Depression Overview BMF59
Photograph 5-24. Limestone Pier BMF59

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SINCE 1898

5.5 ARTIFACT DESCRIPTION

Several artifacts were observed in a cluster to the northeast of the block house (Figure A-2) and south of the guardhouse. A few glass and metal items were observed scattered throughout the property, too numerous to map, but were general, very small, non-diagnostic fragments. A shovel test in the center of Feature 2, a rifle pit, revealed a piece of metal banding and a very rusty nail fragment.

During the survey, artifact clusters were identified; the densest of these were mapped northeast of the blockhouse and southwest of the guardhouse (Figure A-1). Other light scatters of artifacts were noted around the features of the laundress quarters and near the ovens (BMF66 and BMF65). Individual artifacts, mostly glass shards, were observed in the fairways. The density and size of the artifacts remaining likely have much to do with the heavy traffic over 70 years of use as a golf course, as most artifacts observed were small shards of glass, brick, and metal. None of these observed artifacts were collected during the current investigation.

5.6 SITE SUMMARY

The following subsections are brief summaries of six critical aspects considered for the significance of archaeological sites. Because Fort Hays (14EL301) is already listed in the NRHP and because this project was a survey of the golf course adjacent to the fort proper, the following discussions are focused on the features identified within the survey area or golf course.

5.6.1 Horizontal and Vertical Extent of Cultural Deposit

Based on the soils present and visual inspection of the exposed cutbanks and other portions of the landscape, it appears that it is unlikely that any additional stratigraphic layers or buried cultural surfaces are present. The features were all readily visible on the surface; soil corings showed no indication of other deposits.

5.6.2 Site Integrity

Most of the features appear to be in good to excellent condition. The features within the fairways have been subjected to compression, as golf course maintenance crews have run heavy rollers over the terrain to level out any rodent burrows or other irregularities. The dugouts have experienced little to no impact and many of the foundations were covered. Pits were filled with sand and gravel, actually preserving these features.

5.6.3 Site Function

The site functioned as a military fort/reservation from 1867 to 1889. In 1895, legislation was passed to donate portions of the reservation to the State of Kansas for use as an agricultural station and park, while the fort proper was to be used as a Normal School; this proposed use was not confirmed until 1900. The majority of the reservation was opened for settlement in 1899. The State initiated the use of the 3,700-acre agricultural experimental station and the Western Branch of the Normal School at Emporia. The school was renamed in 1914, the Fort Hays Normal School (Pankratz 1979:51-52; King 1999:8) and was in use until it was moved to the current location of Fort Hays State University in 1904. The golf course surrounding the fort proper was initiated around 1915 and is still operated today.

5.6.4 Cultural Affiliation

The intensive survey of the project area revealed no evidence of prehistoric occupations, therefore the cultural affiliation of Site 14EL301 is historic. The major component is Euroamerican; however, during the history of the fort, African Americans (Buffalo Soldiers) were stationed there and several Native Americans were held prisoner there. The later functions of the site were also mainly associated with Euroamericans.

5.6.5 Stratigraphic Placement of Components

The cultural deposits were generally limited to the surface or A horizon, but the dugouts and pits likely extend a meter or more below the surface.

5.6.6 Presence of Subsurface Features

Of the 100 features recorded, most can be considered surface (within the topsoil). However, 56 of the features were dugouts, pits or depressions, which have been filled with sand or gravel. In addition, the foundations of the laundress quarters complex have been covered with sand and the quartermaster surgeon quarters have also been covered or filled with sand. This combination indicates that there are numerous cultural features that have excellent potential for containing subsurface cultural deposits.

6.0 CONCLUSIONS AND RECOMMENDATIONS

This section would typically contain a discussion of the conclusions and recommendations of the site investigated during this Phase II investigation. The discussion includes a brief overview of the NRHP significance of each site, impacts to the site, and recommendations.

6.1 SITE 14EL301 SITE SIGNIFICANCE

Of the eight feature types identified, the ones with the most to offer archaeologically would be the pit depressions, dugouts, rifle pits, foundations, and other depressions. Essentially, the roads and paths would not offer much more beyond landscape use, which in itself is an important aspect. In essence, all but the rectangular golf course related foundation feature (BMF58), have significance to the understanding and knowledge of this NRHP site.

6.2 IMPACT

The nearly 100 year history of the golf course has had some impact to the site, but has also contributed to the preservation of the site. Grounds maintenance, including rolling or leveling, has compressed the upper portions of many of the pit and depression features. The golf trails have impacted some of the historic trails and paths, but the majority of these linear features have good integrity throughout the site. The presence of the golf course has also allowed many of the cultural features to remain in excellent condition. Essentially, the golf course maintenance crews have limited the natural erosion and overgrowth that often deteriorates dugouts and pit features. They have even covered the laundress quarter complex foundations with sand and filled the pit features, essentially preserving them in place. In essence, the golf course maintenance crews and those involved in construction planning, have an important role in assisting in preserving much of the history of Fort Hays.

6.3 RECOMMENDATIONS

It is the opinion of the investigator that any future modifications should take into account the presence of the numerous uninvestigated features that contain untold levels of information about the fort's history and landscape usage. With the GPS information (sub-meter accuracy), the features should be easy to avoid and plan around. Also, many of the features are in clusters, leaving large expanses of the golf course vacant of cultural resources. Any proposed plans should include consultation with the Kansas SHPO and the Director of the Fort Hays Historic Site. In addition, consideration should be given to developing a heritage tour program of the Fort Hays Historic Site.

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